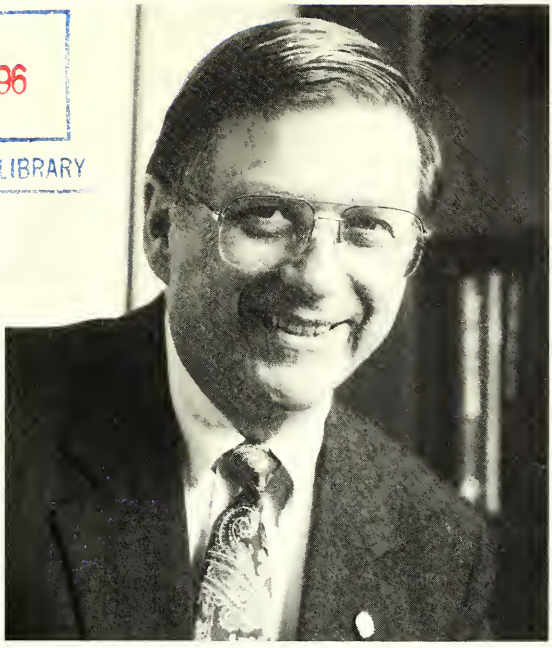
THE CAROLINA
JOURNAL OF PHARMACY



David R. Work
1995 Pharmacist-of-the-Year
story on page 13

1996 NCPhA Candidates for Office

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THE CAROLINA
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The Carolina Journal of Pharmacy is published bi-monthly by the North Carolina Pharmaceutical Association, P.O. Box 151, Chapel Hill, NC 27514. *The Journal* is provided to NCPhA members through allocation of annual dues. Subscription rate to non-pharmacists is $25.00 (continental U.S.). Overseas rates on request. Second class postage paid at Chapel Hill, NC.

NCPhA '96 ELECTION

Ballots for NCPhA's 1996 elections will soon be mailed to all Association members. The slate consists of two candidates for president-elect and nine candidates for three member-at-large positions on the NCPhA Executive Committee.

For the three member-at-large positions, the three candidates who receive a plurality of votes will be elected to a two-year term.

NCPhA members will receive their official ballot in early March. Ballots are to be returned within 30 days of receipt. Ballots will be counted by the Elections Committee in April and results published in an upcoming issue of the Journal.

Successful candidates will be installed in their new office in May 1996 during the 116th NCPhA Annual Convention in Greensboro, North Carolina.

The 1995 NCPhA Nominating Committee presents the following slate of officers which was accepted by the membership at the 115th Annual Convention in May 1995.

Biographical data is present for each candidate. Candidates for positions on the NCPhA Executive Committee were asked to submit a position statement limited to 125 words or less.

Members of the 1995 Nominating Committee were: Chairman, Mickey Watts, LaRue Dedrick, Cathy Fuquay, Bill Post, Jim Thompson, Robert Worley, and Frank Yarborough.

For President Elect

Jimmy S. Jackson is the Regional Sales Manager of TDI Managed Care Services, Inc., which is a division of Kerr & Thrift Drugs. Until the acquisition of Kerr Drugs by Thrift Drug Co. in March 1995, Jackson maintained the position of Vice President of Pharmacy and Government Affairs for Kerr Drugs since 1990. Jackson joined Kerr Drugs as an interning pharmacist in 1967 and progressed as a store manager, district manager, and director of pharmacy.

Jackson is extremely active in numerous professional organizations, including the NCPhA, where he has held the positions of Chairman of the Legislative Committee and the Chairman of the Third Party Committee. He is also a board member of the North Carolina Retail Merchants Association, the North Carolina Academy of Family Physicians, and the Wake County Pharmacy Association. He has acted as the Chairman of the Government Affairs Committee and participated on the TaskForce on Healthcare Reform for the National Association of Chain Drug Stores, of which he is still a member. Jackson is on the Board of Directors for the Garner Chamber of Commerce and serves on the Curriculum Committee at

Campbell University School of Pharmacy.

Jackson is a recipient of the Don Blanton Award, presented by the North Carolina Pharmaceutical Association.

Position Statement

I have been extremely fortunate to have been allowed the opportunity to work closely with just about every segment of our profession. In my 29 years in pharmacy, I have spent most of my time in the retail arena, but because of my involvement in government and regulatory affairs since the early 80s, I have worked closely with representatives from the institutional and academic communities as well. This is not to say that I have an intimate understanding of each of these components' problems, but I do believe I have the ability to involve all of these people in a meaningful dialogue to develop processes to affect change.

Plans must be made to get more young pharmacists involved in the Association. We have to sell the idea of Association ownership to the younger generation and change the younger generation's perception of "their Association" to that of "our Association." It is essential for the leadership of NCPhA to listen to the needs of the members and to use their collective input in formulating our goals.

If elected president, I would take this opportunity to lead NCPhA to a new and bright future. By working together and becoming a unifying force for pharmacy we will be in a much better position to help educate our members in the "how-to" of Pharmaceutical Care, create a working environment conducive to practicing Pharmaceutical Care, and seek out innovative ways for reimbursement for these services.

NCPhA's mission is to advance our profession. As president, this also would be my personal mission. My experience would serve to guide NCPhA and the profession into the future while helping to keep pharmacists the most accessible and respected health care professionals.

Julius F. Howard is the pharmacist-owner of Seashore Drugs Inc. located in Wilmington. In 1990, Julius founded Option Care, a company dealing primarily with home infusion care. Julius is a long-time member of NCPhA and has served on the NCPhA Executive Committee and the Peer Review Board for Medicaid. Julius is the vice-president of NC Wholesale Drug Company and a member of the board of directors.

He is a member of Cape Fear Presbyterian Church, where he serves as a deacon/elder.

Position Statement

My involvement with the NCPhA over the years has provided me the opportunity to get to know pharmacists throughout the state and to stay abreast of the many issues our profession is facing today.

NCPhA is the umbrella group for us as a profession—it's important that we all unite and strengthen our commitment to our profession. We need to meet with fellow pharmacists that are not NCPhA members and encourage them to join.

Our profession is undergoing rapid changes, forcing us to "sink or swim." I firmly believe that everything the NCPhA does impacts and improves every practitioner's job, every pharmacist's practice in this state. As president of our Association I would always be receptive to the ideas and comments of the members.

If elected, I pledge my best to represent pharmacy professionally and faithfully.

For Member-at-Large

three to be elected to a two-year term

Kevin L. Almond is a 1983 graduate of the UNC School of Pharmacy. He has worked in both retail and hospital positions before owning his own drug store. In 1991 Almond was appointed assistant dean at the UNC School of Pharmacy and is responsible for coordinating all fund raising projects and managing public relations activities for the school.

Kevin has been active in pharmacy and community affairs at the national, state and local levels. Almond is a life member of NCPhA and has served on various NCPhA committees. His involvement at the national level includes membership in the National Association of Retail Druggists, the American Pharmaceutical Association, the American Association of Colleges of Pharmacy, and the American Society of Health-Systems Pharmacists.

Kevin's honors include past recipient of the Marion Merrell Dow Distinguished Young Pharmacist Award, the Sanford Downtown Business Person of the Year and the Sanford Downtown Business of the Year. Almond is a past president of the Lee County Pharmaceutical Association, a member of the Chapel Hill Bible Church, and is actively involved in numerous community civic and health related groups.

Position Statement

I believe the North Carolina Pharmaceutical Association should:

1. Create a common mission for all of pharmacy. That mission must center around care of the patient first and compensation second. Presently, we have allowed external forces to redirect what we all went into the profession for...to effect positive change on the health of our patients. While I agree that perceived worth of pharmacists' services has diminished and compensation thereby has decreased, it is still our primary goal to give the patient optimal care. If others cause us to lose that direction, we are to blame and all is lost.

2. Enlist the support of all other pharmacy organizations by putting aside our differences and focusing on solutions to common problems. NCPhA must decide the sum of the profession is greater than its parts. While disagreement exists on issues involving hospital, consulting, manufacturing, and academia, many of those issues have been driven by managing the costs of health care. Therefore, what we must agree on is that all facets of pharmacy are not being influenced by managed care, but controlled and dictated by managed care. The issues that divide us have arisen by individually trying to cope with the pressures of managed care. What do we as a group do to effect change?

3. Be proactive rather than reactive. The Association, with broad-based representation of pharmacy, should strategically plan where to be in five, ten, and twenty years. Although things will continue to change outside our control, planning helps to minimize those changes and allow pharmacists to take a more active role in the profession's direction.

4. Create alliances with other health care professionals. While the state associations for medicine and nursing would have made strange bed fellows in past years, we must recognize the fact that they too are being directed by non-health care professionals (i.e., lawmakers, insurance executives). We must agree on our roles in the health care system, state our compensation, and let insurance companies react to the health care provider. Practitioners must start steering the system to benefit the patient, not the pockets or the agendas of politicians and insurers. This can only be done by unity of cause.

Linda L. Butler is a pharmacist for Ask The Pharmacist Inc., a drug information center, located in Chapel Hill. She has a diversified professional background having worked as a pharmacist consultant for an adult group home, a practitioner-instructor for senior pharmacy groups and as pharmacy manager for the Jack Eckerd Corporation.

Linda is a life member of the UNC Pharmacy Alumni Association and the current vice-president. In addition, she has served as member of the Board of Directors, and Secretary-Treasurer of the Alumni Association. Linda currently serves as an Elder at University Presbyterian Church in Chapel Hill, where she has held many leadership positions over the years. Linda is a life member of the NCPhA and is currently a member of the NCPhA Ethics, Grievance and Practice Committee.

Position Statement

The North Carolina Pharmaceutical Association should have many roles to benefit, protect, and enhance the profession of pharmacy. Some of those roles I see are:

- *Being a "watch dog" over trends with third party programs (and other programs) and impending or proposed legislation, hopefully steering any new actions toward improving the practice of pharmacy.*
- *Promoting positive publicity, presenting important information for the benefit of the general public, employers, and other practitioners.*
- *Educational opportunities, whether small or large, to expand our capabilities.*
- *Creating an environment for exchange of ideas and fellowship, thereby forming a more fraternal atmosphere.*

NCPhA should be somewhere between the umbrella and the central cog for the profession of pharmacy.

Stephen C. Dedrick has been active in North Carolina pharmacy organizations, including the NCPhA, where he has served previously as an Executive Committee member, third vice president, Chairman of the Resolutions and Policy and Procedures Committees, and Convention Chairman in 1990. Active in local pharmacy associations, Steve has served as President and program chairman of the Durham/Orange County Pharmaceutical Association for the last three years. Steve received his BS and MS degrees from the UNC School of Pharmacy where he was a member of Kappa Psi and Rho Chi. Steve is Assistant Director of Pharmacy at Duke University Hospital.

Position Statement

The North Carolina Pharmaceutical Association exists to represent the professional, political, academic, and economic interests of pharmacists in North Carolina. The responsibility for ensuring that these activities occur rests with the staff and elected officers of the NCPhA. It is our job as NCPhA members to provide input to these people to give them direction in the discharge of their responsibilities. The NCPhA staff and officers must stay abreast of state and national trends and provide programs and other materials to keep pharmacists current in their practice and prepared for change. NCPhA must strive to integrate the pharmacists from all walks of pharmacy practice to ensure that any practice issue can be debated within pharmacy ranks before we go to the public. This approach will help us better understand the issues of our pharmacy colleagues and continue our strong public image. We must help each other grow professionally as we all adapt our practices in the health care revolution.

Gary R. Glisson is a 1978 graduate of the UNC School of Pharmacy. He has been the owner and president of Ward Drug Company in Nashville since 1986. A member of the NCPhA for 16 years, he has served on several committees including the Retail Community Pharmacy Committee. He is a member of the North Carolina Retail Pharmacists Association. Glisson served as an at-large delegate to the Pharmacy in the 21st Century symposium. As a member of NARD, he has presented colleagues-in-consultation seminars at two annual conventions. Glisson is a former Jaycee and Lion, and a past president of the Nashville Chamber of Commerce. He also is a member of the Nash County Economic Development Commission. Gary is a member of Nashville United Methodist Church, and he serves on two of the church's committees.

Position Statement

The NCPhA must become a proactive force for its member pharmacists in North Carolina by acting, not reacting, to changes in our health care system. Pharmacists must prepare themselves to become gatekeepers of the health care system by moving from a strictly dispensing role into a pharmaceutical care role and our Association must assist in this transition. In addition, the NCPhA must assist its members by taking a lead role in dialogues with payers of health care dollars to assure us of payment for pharmaceutical care.

We must all become more active on a grassroots level so our legislators will understand the value of pharmaceutical care. This means personal contact in addition to letters and donations. The activity of the NCPhA membership is linked directly to the future of our profession.

Kevin R. Layne is a 1990 graduate of the UNC School of Pharmacy and is a pharmacy manager for Belmont Pharmacy in Reidsville. Prior to his employment with Belmont Pharmacy, he worked for two major pharmacy chain drug stores in the North Carolina area. Kevin initially joined NCPhA as a pharmacy student, and since then has become a life member of the NCPhA. He has served as chairman of the NCPhA Health Care Reform and Health Policy Committee and is presently chairman of the NCPhA Retail Pharmacy Committee. Kevin has been active in various local pharmacy associations and is currently a member of the Rockingham County Society of Pharmacists. He is a member of the board of directors of the NC Retail Pharmacy Association.

Position Statement

My goal in serving on this board is to address the working conditions and practice concerns of all pharmacists regardless of practice setting. Last year for the first time, newly licensed pharmacists started at a lower beginning salary than did the previous licensed class. Alarming to me is that while we are experiencing decreases in wages, we are forced to fill more prescriptions, thereby increasing our liability and diminishing the quality of the patient-pharmacist encounter. I am concerned about the possible ramifications.

With OBRA 90 came the requirement that all pharmacists counsel Medicaid prescriptions. Our state board of pharmacy strengthened this mandate by extending it to include all prescriptions. Alarming to most of us in the day-to-day practice of pharmacy is that while pharmacists have the skills needed to counsel the patients, seldom do they have the time to fulfill their obligation under the law. This situation could be alleviated if pharmacists were given the adequate ancillary help in the pharmacy.

It is of great importance to me to insure that the practicing pharmacists have adequate input in shaping the direction in which our profession will develop.

Larry S. Long is a 1974 graduate of the UNC School of Pharmacy. Although most of his experience has been in long-term care and consulting pharmacy, he has owned and operated an independent retail pharmacy. He is employed by Pharmacy Corporation of America, which purchased a company he co-founded, Medication Management, Inc. In addition to his affiliations with NCPhA, he is also a member of the American Society of Consultant Pharmacists, and is co-chairman of legislative affairs and an executive officer with the state chapter. Larry currently serves on the Pharmaceutical Care and Practice Committee, a joint workgroup of the NCPhA and NCSHP. Larry is active in church and has participated in a variety of volunteer activities in his community and church.

Position Statement

If elected to service on NCPhA's Executive Committee, I would attempt to focus on the following issues:

- *Advancement of the concepts of pharmaceutical care in everyday practice*
- *Pursuit of fair remuneration for these services as distinct from dispensing*
- *Assist the NCPhA leadership in developing the ability for NCPhA to play a more valuable role in coordinating and advancing the common interests of an increasingly diverse profession.*

Mark A. Manship is a 1969 graduate of the UNC School of Pharmacy, where he was Rho Chi Student President. As owner/manager/pharmacist of Medical Arts Pharmacy in Lenoir, NC, he has had 25 years of retail pharmacy experience. He was Distinguished Optimist President and Lt. Governor, Lenoir Optimist of the year, 1992, President of the PTA and Athletic Boosters, and served on the Caldwell County Board of Health from 1984-1993. He served on the Lenoir City Council and was Mayor Pro-Tem, as well as having been vice president of the Caldwell Chamber of Commerce. He is also an Advisory Board Member of the Caldwell Community College Pharmacy Tech Program and is an active member of the NC Retail Pharmacy Association. Mark belongs to the First Baptist Church and has coached youth football for 20 years.

Position Statement

I believe that, as pharmacists, we are the most easily accessible, most informative, and most cost-effective members of the health care team. But we have given so freely of our time and knowledge that our profession is now being taken for granted and financially stripped to the point that many are not able to stay in business. Gallup polls continue to report that pharmacists are the most trusted professionals in America. It is time for us to demand that we be heard when economic decisions are made that threaten our profession. Chain, hospital and community pharmacists should all work together to increase our community awareness as health care professionals. We should also demand that insurance companies and drug manufacturers stop establishing unfair programs that prevent us from being able to earn an honest profit. In a free and open market, pharmacists have always given service equal to and above their salaries, but if current practices of price controls continue, many may not be able to stay in business. This is a critical time for pharmacists to work together—not only for our own good, but more importantly, for the good of health care in America. There is no one who can take the place of a pharmacist.

Debra D. Smith, FASCP, is the Director of Special Pharmacy Services for Medisave Pharmacy in Charlotte. Smith is responsible for development and implementation of ancillary programs for Medisave Pharmacy, including Medicare Part B billing services, formulary development and continuing education programs. Debra also is the consultant pharmacist for a 180-bed nursing home and a partner in MEDS, an ACPE approved company that produces North Carolina's Postgraduate Workshop for Consultation Pharmacists. Smith has been a member of the executive committee of the Mecklenburg Pharmaceutical Society since 1981 and, is current ly second Vice-President. She has been a member of the American Society of Consultant Pharmacists (ASCP) since 1985, serving on the Organizational Affairs Council from 1990 to 1995. She was the assistant director of the NC chapter of ASCP from 1991–1993, and is currently the Organizational Affairs Chairperson for the state chapter. Debra has been a member of NCPhA since 1986 and has served on the Third Party Committee. Debra graduated from the University of Montana in 1975 and has experience in retail pharmacy (5 years with Eckerd Drugs), hospital pharmacy (4 years at Charlotte Rehab Hospital) and consultant pharmacy (12 years with Medisave Pharmacy).

Position Statement

I believe that the next year or two are crucial for the future of pharmacy. Managed care, block grants for Medicaid funds, and proving the value of pharmaceutical care are important issues that will face all of us. I believe that we must be pro-active in dealing with these issues and believe that NCPhA is an organization that should lead the pharmacists of North Carolina into the future. NCPhA's challenge is to develop ideas that increase the awareness of pharmacists. We need to keep our membership informed about health-care issues and give them the tools they need to become health-care leaders in their individual communities. Health-care reform may be legislated nationally, but it will be implemented locally and we are in an excellent position to influence that implementation, if we each accept the challenge. I am honored to have been nominated for the Executive Committee of NCPhA and would appreciate your support.

Josiah R. Whitehead received his BS degree from Butler University School of Pharmacy in Indiana and his MBA from Xavier University in Ohio. Joe currently serves as special assistant to the Dean at Campbell University School of Pharmacy. He retired as vice president of corporate affairs from Burroughs Wellcome after 36 years. While at Burroughs Wellcome, he held many positions in management and administration.

Joe has been a member of the NCPhA for over 11 years. He has served as chairman of the Professional and Public Relations Committee of which he is currently a member and is a member of the Membership Development Committee. Over the years, he has chaired and served on numerous NCPhA committees. For his contributions to the profession, Joe has been recognized with the Don Blanton Award and the UNC Distinguished Service Award. On the national level, Joe is a member of NARD, APhA, and is a full fellow of the American College of Apothecaries. In his community, Joe is a past president of the Poe Center for Health Education; chair of NC Public Television Foundation; member of the Rex Hospital Foundation; member of the Board of Trustees for the Children's Museum About the World; member of White Memorial Presbyterian Church, Raleigh; and member of the State Advisory Board of the American Cancer Society.

Position Statement

To better meet the membership needs of the North Carolina Pharmaceutical Association, we should be able to do the following:

1. Provide timely and accurate information. With the upcoming election we will all be inundated by a blitz of information from numerous sources. The debate will be reshaped and the issues redefined in the coming months. This means much of the old information is not appropriate, and there is sure to be much new information to be digested. A good deal of the action may shift from the national to the state level. NCPhA can serve as a clearinghouse to keep our members informed about what is being proposed, what action is being taken or is likely to be taken, and what the thought leaders in health care are saying. This should enable our members to better crystallize and articulate their thoughts on the issues.

2. Lead our members to have realistic expectations regarding the outcomes of the debate and the implications for pharmacy practice. The temptation to which some professional associations in health care have succumbed, is to overstate both the role played by the Association in reshaping the debate and the expected results. NCPhA must not fall into this trap at the state or national level. Our efforts must not be diminished in working for the best interests of Pharmacy; however we must be realistic in what we promise.

3. Provide constructive opportunities for involvement by our members. The range of activities include letter writing to elected leaders, contributions to our Political Action Committee, legislative visits, serving on advisory boards and commissions, and good old-fashioned grass roots politicking. NCPhA can regularly call to the attention of our members the need for and opportunity to take these actions. An informed and motivated membership may make the difference in our ability to achieve our objective in an evolved health care system in North Carolina or in the nation.

CANDLELIGHT TOUR PARTICIPANTS ENJOY FUN EVENING

The Woman's Auxiliary hosted a dinner at the Institute of Pharmacy on December 9. Preceding the dinner, participants enjoyed a Candlelight Tour of the historical homes in the downtown Chapel Hill area. It was a festive occasion and everyone had a wonderful time.

✍ *Mark your calendar for the*

Socio-Economic Aspects of Pharmacy Practice Seminar

"Re-engineering Your Practice for Reimbursement"

March 27, 1996
Holiday Inn Four Seasons Hotel
Greensboro

Cosponsored by North Carolina Pharmaceutical Association and UNC School of Pharmacy

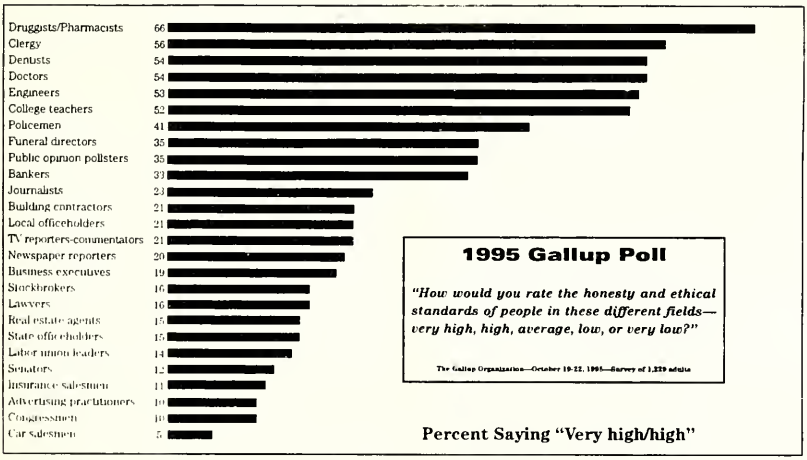
☛ *If you have not received registration material please call 1-800-852-7343*

DRUGGISTS/PHARMACISTS TOP GALLUP POLL FOR SEVENTH STRAIGHT TIME

For the seventh straight time, consumers responding to the Gallup Poll have named pharmacists as the nation's most trusted professionals. A full 66 percent of poll respondents—an increase of 4 percentage points from 1994's poll—rated the honesty and ethical standards of "druggists/pharmacists" as "very high" or "high," according to the Princeton, New Jersey-based Gallup Organization.

The Gallup Poll asked more than 1,200 adults to rate the honesty and ethical standards of 26 different occupations. Those surveyed gave ratings of very high, high, average, low, very low, and no opinion. The survey was conducted October 19-22, 1995.

Druggists/pharmacists received "very high" or "high" ratings from 66 percent of consumers polled, Gallup reported. Members of the clergy placed second in the poll, with combined "high" or "very high" ratings of 56 percent—10 percentage points below pharmacists. Dentist and medical doctors were tied for third place with 54 percent of respondents ranking them as "high" or "very high."



Highlights of the Pharmacist-of-the-Year Dinner

Guest of honor, David Work, with his daughters *(left to right)* Dana Ward, Amy Needham, and Susan Work.

David Work *(right)* and Carmen Catizone, Chicago, Executive Director of the National Associations of Boards of Pharmacy.

Dave and Rebecca Work.

1994-95 NCPhA President Joey Edwards *(right)* presents David Work with the coveted Mortar and Pestle Award.

Pharmacist-of-the-Year pictured with his "yard art," including a gourd birdhouse.

Previous recipients of the Pharmacist-of-the-Year Award attending this year's dinner.

PHARMACY HONORS DAVID ROGER WORK 1995 PHARMACIST-OF-THE-YEAR

In a dinner and ceremony at the Carolina Club, George Watts Hill Alumni Center in Chapel Hill, David Roger Work, Executive Director of the North Carolina Board of Pharmacy was recognized as the 1995 North Carolina Pharmacist-of-the-Year. Friends and colleagues from across the state and nation appeared to honor this outstanding pharmacist.

Mitchell Watts, Concord, NCPhA President, presided over the evening's program. The invocation was delivered by Nancy Feree-Clark, Pastor to the Congregation, Duke Chapel, where Mr. Work worships. David reputedly has said he attends Duke Chapel because they never have a building fund drive, a statement he does not deny.

After the dinner, William H. Randall Jr, Lillington, president of the N.C. Board of Pharmacy introduced several friends, pen pals and colleagues of the recipient, who made comments about their experiences with him over the years. Former Fourth District Congressman David Price, Chapel Hill, noted he had received frequent correspondence from Mr. Work. In fact, he remarked how he had started with a file titled "David Work," but in a very short time had progressed to a drawer marked "David Work." Eventually, before he left his office in Washington, he claimed to have a filling cabinet dedicated to "David Work." Price said he looked forward to receiving letters from Work, as they were always well written, and expressed a point of view he, the congressman, may not have thought about.

Carmen Catizone, Chicago, Executive Director of the National Association of Boards of Pharmacy, told how busy Dave had been in his year as president of NABP. He spoke of the many trips taken on behalf of NABP, domestic and foreign, and his general activism.

Jimmy Jackson, Garner, pharmacist executive with Kerr Drug Store, (now Thrift Drug), presented Dave with several gifts. Jimmy noted that Dave was a Tar Heel by choice, not by birth, being a native of Iowa. On a recent trip by Dave and Rebecca's home, he discovered there were serious omissions in their yard art. Among the valuable gifts presented to Dave by Jimmy, and an assortment of co-conspirators, were an automobile tire painted white for flowers to be planted in, a flamingo, selected reflectors for his driveway, and possibly a washing machine to be kept on the front porch.

Dave's three daughters, Amy Work Needham, Dana Work Ward and Susan Margrethe Work, each gave a tribute to their dad and confided to the audience that no matter what his accomplisments were, and how well he was thought of, he still couldn't sing.

Joseph Edwards, immediate past president of the NCPhA presented Work with the coveted Mortar-and-Pestle Award, emblematic of being selected Pharmacist-of-the-Year.

1996 NATIONAL HEALTH EVENTS RESOURCE GUIDE

January 1996 – June 1996

JANUARY

National March of Dimes Mothers March
Contact: Karen Wertheimer, Associate Director of Telemarketing
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
Promotional materials available.

National Glaucoma Awareness Week
January 21-27
Contact: Jackie Bitowt, Media Relations Manager
Prevent Blindness America
500 East Remington Road
Schaumburg, IL 60173
(708) 843-2020
Information and promotional materials available.

FEBRUARY

American Heart Month
Contact: Tim Elsner, Manager of Public Relations
American Heart Association
7272 Greenville Avenue
Dallas, TX 75231-4596
(214) 373-6300
Promotional materials available through local affiliates.

National Children's Dental Health Month
Contact: Nina Koziol, Manager of Consumer Affairs
American Dental Association
211 East Chicago Avenue
Chicago, IL 60611
(312) 440-2500
Promotional materials available for sale.

MARCH

Cataract Awareness Month
Contact:: Jackie Bitowt, Media Relations Manager
Prevent Blindness America
500 East Remington Road
Schaumburg, IL 60173
(708) 843-2020
Information and promotional materials available.

Hemophilia Month
Contact: Ingrid Montecino, Deputy Executive Director
National Hemophilia Foundation
110 Greene Street, Suite 303
New York, NY 10012
(212) 219-8180
Promotional materials available.

Mental Retardation Month
Contact: Liz Moor, Communications Director
The Arc (formerly Association for Retarded Citizens)
PO Box 1047
Arlington, TX 76004
(817) 261-6003
Information flyer available.

National Kidney Month
Contact: Ellie Schlam, Public Relations Manager
National Kidney Foundation
30 East 33rd Street
New York, NY 10016
(212) 889-2210 (800) 622-9010
Free patient/public education materials available.

National Nutrition Month
Contact: Venus Hurd, National Center for Nutrition & Dietetics
American Dietetic Association
216 West Jackson Boulevard, Suite 800
Chicago, IL 60606-6995
(312) 899-0040, ext. 4759
(800) 745-0775
Promotional materials available.

Nutrition Awareness Month
Contact: Sonny Rivera, Administrative Coordinator
American Cancer Society
1599 Clifton Road, NW
Atlanta, GA 30329
(404) 320-3333
Media kit and brochures available through local and state offices.

Red Cross Month
Contact: Jennie Severson, Corporate Marketing Associate
American Red Cross National Headquarters
430 17th Street, NW
Washington, DC 20006
(202) 639-3185
Promotional materials available.

Rosecea Awareness Month
Contact: Sam Huff, Director
National Rosecea Society
220 South Cook Street, Suite 201
Barrington, IL 60010
(708) 382-7404
Educational materials available

National PTA Alcohol & Other Drug Awareness Week
March 3-9
Contact: Victoria Duran, Health & Welfare Program Manager
National PTA
330 North Wabash Avenue, Suite 2100
Chicago, IL 60611
(312) 670-6782
Promotional materials available.

National Save Your Vision Week
March 3-9
Contact: Laurie Burgman, Communications Center
American Optometric Association
243 North Lindbergh Boulevard
St. Louis, MO 63141
(314) 991-4100
Information flyer available.

National Poison Prevention Week
March 17-23
Contact: Ken Giles, Secretary
Poison Prevention Week Council
PO Box 1543
Washington, DC 20013
(301) 504-0580 ext. 1184
Promotional materials available.

American Diabetes Alert
March 26
Contact: Gwen Twillman, Manager of Community Programs
American Diabetes Association
1660 Duke Street
Alexandria, VA 22314
(703) 549-1500 ext. 2014
(800) DIABETES
Information and materials available.

APRIL

Alcohol Awareness Month
Contact: Public Information Office
National Council on Alcoholism and Drug Dependence
12 West 21st Street
New York, NY 10010
(212) 206-6770
Promotional kits available at $5 each.

National Child Abuse Prevention Month
Contact: Alice Auer, Department of Public Awareness
National Committee to Prevent Child Abuse
332 South Michigan Avenue, Suite 1600
Chicago, IL 60604
(312) 663-3520
Promotional kit available.

National Youth Sports Safety Month
Contact: Michelle Glassman, Executive Director
National Youth Sports Safety Foundation, Inc.
10 Meredith Circle
Needham, MA 02192
(617) 449-2499
Promotional materials available.

Stress Awareness Month
Contact: Dr. Morton C. Orman, Director
The Health Resource Network
908 Cold Bottom Road
Sparks, MD 21152
(410) 732-1900
Promotional materials available.

World Health Day
April 7
Contact: Jessica Muro, Project Officer
American Association for World Health
1129 20th Street, NW Suite 400
Washington, DC 20036
(202) 466-5883
Promotional materials available.

National Organ & Tissue Donor Awareness Week
April 21-28
Contact: Ellie Schlam, Public Relations Manager
National Kidney Foundation
30 East 33rd Street
New York, NY 10016
(212) 889-2210 (800) 622-9010
Free patient/public education materials available.

MAY

Better Hearing and Speech Month
Contact: Mark Galliher, Chairman
American Speech, Language and Hearing Association
10801 Rockville Pike
Rockville, MD 20852
(301) 897-5700 ext. 159
Promotional kit available.

Better Sleep Month
Contact: Chin Chu Morley, Ogilvy, Adams & Rhinehart
The Better Sleep Council
1901 L Street, NW, Suite 300
Washington, DC 20036
(202) 452-9428
Promotional materials available.

Breathe Easy Month (New)
Contact: Ruth Kasloff, Communications Associate
American Lung Association
1740 Broadway
New York, NY 10019-4374
(212) 315-8700
(800) LUNG USA (586-4872)
Promotional materials available.

Correct Posture Month
Contact: Member Information Center
American Chiropractic Association
1701 Clarendon Boulevard
Arlington, VA 22209
(703) 276-8800
(800) 986-INFO (4636)
Promotional materials available.

National Arthritis Month
Contact: Dennis Bowman, Director of Communications
Arthritis Foundation
1314 Spring Street, NW
Atlanta, GA 30309
(404) 872-7100 ext. 6343
Promotional materials available.

National Asthma and Allergy Awareness Month
Contact: Dawn Marvin, Director of Communications
Asthma and Allergy Foundation of America
1125 15th Street, NW, Suite 502
Washington, DC 20017
(202) 466-7643
Press kit available.

National High Blood Pressure Month
Contact: Information Specialist
National Heart Lung and Blood Institute
PO Box 30105
Bethesda, MD 20824-0105
(301) 251-1222
Information and materials available.

National Mental Health Month
Contact: Scott Punk, Director of Media Relations
National Mental Health Association
1021 Prince Street
Alexandria, VA 22314-2971
(703) 684-7722
E-mail: JSPNMHA@CAIS.COM
Promotional kit available.

National Physical Fitness and Sports Month
Contact: Matthew Guidry, Deputy Executive Director
President's Council on Physical Fitness and Sports
701 Pennsylvania Avenue, NW, Suite 250
Washington, DC 20004
(202) 272-3426
Promotional materials available.

National Sight Saving Month
Contact: Jackie Bitowt, Media Relations Manager
Prevent Blindness America
500 East Remington Road
Schaumburg, IL 60173
(708) 843-2020
Information and promotional materials available.

Older Americans Month
Contact: Moya Thompson, Older Americans Month Coordinator
Administration on Aging
200 Independence Avenue, SW, Room 309F
Washington, DC 20201
(202) 401-4543
Information materials available.

Stroke Awareness Month (New)
Contact: Tim Elsner, Manager of Public Relations
American Heart Association
7272 Greenville Avenue
Dallas, TX 75231-4596
(214) 373-6300
Promotional materials available.

National Safe Kids Week
May 4-11
Contact: Susan Kirinich, Field Department
National Safe Kids Campaign
111 Michigan Avenue, NW
Washington, DC 20010
(202) 884-4993
Information materials available.

Alcohol and Other Drug-Related Birth Defects Week
May 12-18
Contact: Peggy Stotz, Public Policy Department
National Council on Alcoholism and Drug Dependence
1511 K Street, NW, Suite 443
Washington, DC 20005
(202) 737-8122
Promotional materials available.

National Nursing Home Week
May 12-18
Contact: Molly Ruskin, Public Relations Assistant
American Health Care Association 1201 L Street, NW
Washington, DC 20005
(202) 842-4444
Free planning guide available.

National Osteoporosis Prevention Week
May 12-18
Contact: Audra Singer, Manager of Public Information Services
National Osteoporosis Foundation 1150 17th Street, NW, Suite 500
Washington, DC 20036
Information and promotional materials available.

National Senior Health and Fitness Day
May 29
Contact: Tina Godin, Program Coordinator
Mature Market Resource Center
621 East Park Avenue
Libertyville, IL 60048
(800) 828-8225
Promotional materials available.

World No Tobacco Day
May 31
Contact: Jessica Muro, Project Officer
American Association for World Health
1129 20th Street, NW, Suite 400
Washington, DC 20036
(202) 466-5883
Promotional materials available.

JUNE

National Scleroderma Awareness Month
Contact: Sally Pasko, Chapter Liaison
United Scleroderma Foundation, Inc.
21 Brennan Street, Suite 21, Box 399
Watsonville, CA 95077
(408) 728-2202
(800) 722-HOPE (4673)
Promotional materials available.

SCHERING REPORT XVII CONFIRMS GROWING PRESENCE OF WOMEN IN PHARMACY

Female pharmacists, now comprising one-third of the working profession, are significantly more satisfied than male pharmacists with their choice of career, less concerned about managed health care and other challenges, and far surer that their growing numbers will benefit the profession.

These were among the major findings of a new, independent survey of pharmacists' attitudes commissioned by Schering Laboratories.

"Nine out of 10 pharmacists, both men and women, report that they are satisfied with pharmacy as a profession," said Dr. Jack Robbins, director of pharmacy affairs, Schering laboratories. "But more women (51 percent) than men (35 percent) say they are completely satisfied with the pharmacy profession. That's a substantial difference."

On managed care issues, almost two-thirds of the pharmacists surveyed reported that they were affiliated with a managed care organization. "Women evaluated the business of their affiliations much more favorably than men" Robbins said. "About two-thirds (64 percent) of women but only 43 percent of men believe that a managed care affiliation was beneficial. Conversely, only 11 percent of female pharmacists compared with 35 percent of male pharmacists thought managed care had an adverse impact."

Schering Report XVII—Women in Pharmacy: A New Complexion for the Profession—probed three major issues confronting pharmacy: the role of women in the profession; the impact of managed health care on pharmacy practice; and the potential implications for pharmacy of universal health care coverage.

The study was based on 400 interviews with pharmacists across the continental United States. Interviewers questioned equal numbers of men and women, including owner/managers and staff pharmacists working in independent and chain drug stores, supermarket and department store pharmacies, hospitals and health maintenance organizations (HMO).

Until World War II, pharmacists, like physicians, were predominantly men. By 1972, almost a quarter-century later, barely 13 percent of employed pharmacists were women. In 1994, though, women comprised 38 percent of working pharmacists.

Until World War II, pharmacists, like physicians, were predominantly men. By 1972, almost a quarter-century later, barely 13 percent of employed pharmacists were women. In 1994, though, women comprised 38 percent of working pharmacists.

"That level is certain to rise," Robbins said, "since almost two-thirds of all current pharmacy students and recent graduates are female. If this trend continues, the year 2000 may well usher in the Century of the Woman in Pharmacy.

"It takes only a sideward glance at the other medical professions to see how far women have come in pharmacy," he added. "Only one in five physicians is a woman. In dentistry, women are a mere 1 in 12."

The Schering Report revealed pharmacists as a group almost evenly divided (45 percent to 46 percent) on whether more women in pharmacy will have a positive effect on the profession or make no difference at all. Only 8 percent said it would have a negative influence.

"Not unexpectedly, female pharmacists were twice as likely as their male colleagues (63 to 30 percent) to believe that good things will flow from the feminizing of pharmacy," Robbins noted.

Pharmacists expressing a positive view said that women tend to be more caring, under-

standing and sensitive; have good rapport with patients; and are better organized and more patient. Pharmacists voicing a neutral opinion maintained that gender is irrelevant as long as the job gets done, that the education and training of men and women are equivalent, and that women are accepted in all professions.

In a minority role, pharmacists with a negative view claim that women tend to lower the salary base of the profession, look for part-time work, and place family interests first during child-bearing years.

Asked whey they chose pharmacy as a career, most women and men cited similar reasons—altruism or service to society; interest in science and medicine; a desire for a secure, well-paying, interesting career; and family and childhood influences.

"Service was the first priority for most women and men" Robbins said. "Nearly 25 percent of both groups said they like helping people, and that's what pharmacy is all about. Next came an interest in science in general or in a medical profession, specifically, with each reason cited by about 20 percent of both women and men."

Job security and good paychecks taken together were cited by a quarter of women and men. However, they weighted each reason differently. Fifteen percent of men, but only 10 percent of women, indicated that they were motivated by the opportunity for a secure career. Conversely, 16 percent of women versus 9 percent of men mentioned a "good salary" as a reason for their career choice. About 10 percent of both women and men said they were attracted to pharmacy because it was an interesting and challenging career.

Family tradition and influence were also important factors in career choice. Ten percent of both genders said pharmacy was a family tradition, and about the same proportion were influenced by friends.

"A good one-third of all respondents had a pharmacist in the family, and almost one in 10 pharmacists is married to another pharmacist," Robbins pointed out.

The Schering Report identified chain pharmacy as a primary gateway to a pharmacy career for women. Nearly one-half (47 percent) of recent female graduates were employed in chain store pharmacies. This was four times the number in independent or department store pharmacies, and five times the number in hospital or HMO pharmacies. Women outnumber men in chain store pharmacies by a 10-point margin (38 percent to 28 percent).

Women pharmacists also reported working in bigger and busier pharmacies that fill on average 250 prescriptions per day, in contrast to the daily average of about 170 prescriptions, as reported by men. Better than half (53 percent) of women work in pharmacies with three or more pharmacists, while only about one-third (35 percent) of men work in such busy pharmacies. Both findings reflect the greater employment of women in chain pharmacies, the study noted.

Working in high volume pharmacies—with fewer management responsibilities—women fill more prescriptions daily than men, an average of 105 versus 93.

The Schering Report also probed the issue of pharmacy management. "As the historic majority in pharmacy, men naturally have about twice as much experience as women," Robbins said. "This fact might partially explain the minority presence of women in management."

"While pharmacy management still appears to be a male turf, it probably won't be for long," he added. "Male pharmacists currently predominate as owners, managers or directors by a 27 point margin (53 percent to 36 percent). Women's status is a mirror image, with nearly two-thirds (63 percent) remaining staff employees compared with slightly more than one-third (37 percent) of men."

On managed care issues, pharmacists said that about 60 percent of their prescriptions are third-party or co-pay. Some 64 percent of pharmacists were affiliated with a managed care organization. The percentage was less for hospital pharmacies (48 percent) and mass merchandisers (55 percent), but almost total for HMOs (96 percent). "Of pharmacists reporting a managed care affiliation, over half believed that participation had been good for their business, 23 percent held opposing views, and 20 percent could see no significant effect

on their pharmacy income," Robins noted.

Pharmacists are not ardent fans of managed care, the study concluded. Fully one-third of the respondents could see no advantages to pharmacists in its growth, while only 13 percent saw no disadvantages.

"The study also found that pharmacists with an opinion on managed care took a bleak view of universal health care," Robbins said. "On nine of the 10 aspects of pharmacy surveyed, negative expectations far outweighed positive views.

"Even the otherwise pervasive female optimism was pretty much absent on this issue," he added. "Female pharmacists were gentler and kinder toward universal health care, but by only a few percentage points."

Commenting on the Schering Report findings, Robbins said: "Despite all their concerns and doubts, pharmacists are overwhelmingly satisfied with pharmacy as a profession. The acid test of satisfaction with the profession may well be whether pharmacists want their sons and daughters to follow their career paths."

Asked if they would want their children to follow them into the profession—a key measure of career satisfaction—eight of 10 female pharmacists and nearly two-thirds of male pharmacists said they would want a daughter to become a pharmacist. Significantly, 74 percent of female pharmacists and only 54 percent of male pharmacists wanted a son to follow their career pathway.

"The message is clear," Robbins said. "Both genders in pharmacy sense that—in the future—the profession may be more rewarding to women than to men. The higher levels of male dissatisfaction and pessimism on many counts lend support to this conclusion."

Pharmacy Calendar

March

9–12 **APhA Annual Meeting**
Nashville, TN

23 **Christian Pharmacists Fellowship International Regional Meeting**
Buies Creek, NC

27 **NCPhA/UNC School of Pharmacy Socio Economic Seminar**
Greensboro, NC

April

21–23 **NARD Legislative Conference**
Washington, DC

May

8–11 **NARD RxExpo**
Philadelphia, PA

8–13 **American College of Apothecaries Midyear Conference**
Philadelphia, PA

18–22 **ASCP Midyear Conference**
Marco Island, FL

24–27 **NCPhA Annual Convention**
Greensboro, NC

June

2–6 **ASHP Annual Meeting**
San Diego, CA

September

7–8 **NCPhA/UNC School of Pharmacy, Pharmacy Practice Seminar**
Wilmington, NC

18–22 **American College of Apothecaries Annual Meeting**
Portland, OR

October

13–17 **NARD Annual Convention**
St. Louis, MO

20–26 **National Pharmacy Week**

November

13–17 **American Society of Consultant Pharmacists Annual Meeting**
Nashville, TN

Woman's Auxiliary President, Daphne Ashworth *(center)*, is pictured with the UNC 1995 scholarship recipients *(from left to right)*, Laurel Evers, Vivian Spradlin Smith Scholarship; Michelle Childs, W.J. & Vivian Smith Scholarship; Kathleen Sheridan, Vivian Spradlin Smith Scholarship; and Melanie Reece, Lucile Swaringen Rogers Scholarship.

COMMITTEE ADDRESSES COMPENSATION ISSUES

The Pharmaceutical Care and Practice Committee, at its November 10th meeting, focused on the topic of reimbursement for pharmacists. Several of the members presented reimbursement concerns from their practice settings. The following synopsis will define the work that the committee has undertaken.

CPT Codes for reimbursement are being used by some pharmacists with a physician cosigning the form. Julie Kirk reported on this mechanism and identified our need to only charge for higher levels of routine service, the need for meticulous attention to documentation, and that credentials are necessary, i.e., CDE, for getting a provider number. She thinks we should explore the code for non-physician providers as an opportunity for pharmacists to charge for cognitive services if physician cosignature is not possible.

Tina Brock participated in a project in Mississippi where data was collected to document the value of pharmacist clinical service. While the evidence collected by the pharmacist was impressive, BC/BS and Medicaid/Medicare have not completed their evaluation of the data. This project did accomplish the objective of documenting value added by pharmacists.

Data is being collected by eleven states to study pricing issues with Medicaid programs. Benny Ridout stated that pharmacists must offer clinical services, i.e., counseling and/or primary care, before they can be paid for the service. He felt that there are opportunities for reimbursement for clinical services, even though product reimbursement is declining. Case management holds promise for pharmacists, he thinks.

As for BC/BS, pharmacists have not communicated their recent concerns over new contracts with decision makers. June McDermott proposed a pilot project be written for a community clinical model upon which reimbursement projections can be made.

Managed care and capitation have already made a big impact on home care pharmacy. Ann Bemus reported that many contracts are negotiated nationally and the drug/clinical service is bundled with the nursing charge. She thinks that pharmacists must document their effect on patient outcomes, so that patient specific service can be enhanced/continued.

In the hospital setting, the percentage of fixed pay patients is increasing and the need to charge individual patients for services may not be necessary. With the emphasis on decreasing LOS, reducing supply costs, and preventing readmissions, the case management model may work for health system pharmacist. Pharmacists are participating on clinical paths for improving patient outcomes. This fits nicely with the case management model. With managed care looming on the horizon, Jean Douglas suggested that we collect outcomes data and document the value provided to our patients. The committee discussed the data presented and decided on the following:

1. Suggest that pharmacists proactively review new contracts and determine an organized means to respond to the payers.

2. Begin documenting outcomes and value so that decision makers have the information that is needed.

3. Ask a subcommittee to pursue the CPT reimbursement opportunities, standardizing definitions of services provided and charged.

Additionally, investigate the NARD form and the NCPDP forms for use by pharmacists. Subcommittee Chair is Julie Kirk.

If you have questions or would like to get involved, please contact NCPhA President Mickey Watts (704) 782-2194; NCPhA Executive Director Al Mebane 1-800-852-7343; NCSHP President Don Marsh (704) 257-4468; or Administrative Director Frances Gualtieri (919) 933-6760.

AROUND THE STATE

WILLIAMSTON—Clark's Pharmacy of Williamston recently was named one of Drug Topic magazine's Independent Superstars, a national honor that hundreds of stores compete for each year. Clark's was the only store in North Carolina to win the honor, and one of three winners to be featured in the magazine's cover story. **Barry Wester**, store owner and pharmacist, says he attributes his store's success to the Golden Rule, "You treat people as you want to be treated."

KINSTON—John C. Hood Jr., recently received the Certificate of Meritorious Service from the Rotary Foundation. Hood served as the 1994-95 district 7730 chairman of the Rotary Foundation which raised nearly $100,000 for Rotary programs.

STONY POINT—R.L. McKittrick, pharmacist and owner of Mack's Pharmacy recently retired. McKittrick and Mack's Pharmacy has served the people of Stony Point since the 1960s. **Larry Marlin** of 1st RX Pharmacy is the new owner of the pharmacy.

APEX—Terrence Burroughs, manager of the Western Wake Medical Center Pharmacy was recently named Pharmacist of the Year by the National Pharmaceutical Association. The award was presented to Terrence based on his outstanding service to the Association and the pharmaceutical field.

CHAPEL HILL—Stephen F. Eckel, a first-year doctor of pharmacy student at UNC School of Pharmacy received a student research award for a paper on pharmacy practice in health systems from the American Society of Health System Pharmacists Foundation. The paper was chosen by a panel of students and pharmacists from around the world.

WEDDINGS

ASHEBORO—Wendy Miller and **Jimmy Patterson** were married on October 21. Jimmy and Wendy are graduates of the UNC School of Pharmacy and are pharmacists for Revco.

WILMINGTON—Deborah Mayo and **Blake Barefoot** were wed on November 18. Barefoot is a '93 graduate of the UNC School of Pharmacy and is employed by Rite Aid. Deborah, a '94 graduate of the UNC School of Pharmacy, is employed by Wal-Mart.

GASTONIA—Freda Padgett and Mark Andrew Reep were married on December 2. Freda, a graduate of the UNC School of Pharmacy, is employed by Bi-Lo Pharmacy.

OBITUARIES

ASHEBORO—Charles Raymond "Doc" Whitehead, 93, died November 12. A native of Randolph County, he was owner of Ramseur Pharmacy Inc. from 1924 to 1989. He was a graduate of the UNC School of Pharmacy and a member of the NCPhA. He was a member of the Ramseur Lions Club for 59 years and also served on the Ramseur School Board. He was a director of Randolph Hospital and was a Deacon and trustee of First Baptist Church of Ramseur, where he was a member.

Send us Your News!

If you have news you would like to share in the Around the State column, forward it to the NCPhA office by fax 919-968-9430 or mail it to NCPhA, P.O. Box 151, Chapel Hill, NC 27514.

From the Schools

CAMPBELL UNIVERSITY SCHOOL OF PHARMACY

CU ESTABLISHES PHARMACY SOCIETY

Campbell University School of Pharmacy has become the first pharmacy school in the state to begin a student forum of the American Society of Health-System Pharmacists (ASHP).

Dean Ronald Maddox, who is also a member of ASHP, pledged his support for the student organization.

The student forum will serve as a mechanism whereby students will be offered increased opportunities to learn about pharmacy practice in various health systems.

The student society works closely with its ASHP affiliated state chapter, the North Carolina Society of Hospital Pharmacists, as well as with the ASHP Pharmacy Student Forum chapters at other pharmacy schools.

These organizations work together to present speakers, provide services, and conduct activities which will improve relations between pharmacy students and practitioners. The Campbell chapter held its first meeting on August 31.

Pharmacy students who were elected as officers during the first meeting were Dena Askew of Coats, president; Kristy Holmes of Haw River, vice president; Nita Johnston of Greensboro, treasurer; and Lillian Kidd of Garner, secretary.

UNC SCHOOL OF PHARMACY

UNC EXTERNAL PHARM.D. PROGRAM

January 1996 is a historic month for the UNC School of Pharmacy. Classes have begun in a newly-created External Pharm.D. program. For the first time, North Carolina pharmacists have the opportunity to pursue and earn a Doctor of Pharmacy degree while maintaining their practices.

Courses in the program will use a combination of independent study, correspondence materials and instruction via the North Carolina Research and Education Network. The network (NC REN) is a two-way teleconferencing system with linked classrooms in North Carolina AHECs or other regional facilities. Most courses will use "live" sessions. During these class periods, professors in Chapel Hill will facilitate interactive group discussions and recitations with students in AHEC classrooms across the state. Some courses will use occasional weekend sessions with students traveling to Chapel Hill or some other central location.

A partial list of required courses includes: Drug Literature Analysis and Interpretation, Applied Pharmacokinetics, Advanced Pharmacotherapy, Problems in Pharmacotherapy, and Monitoring Drug Therapy. In addition to class work, students will complete six clerkships. One of the six clerkships will be time consuming and will require the pharmacist to go outside of his or her practice. The other five clerkships should proceed within their own practices and at an individual pace.

The time required to complete the program will depend in part, on the individual pharmacist. Curriculum committee members designed the program so that a person could

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CORRESPONDENCE COURSE

PATIENT COUNSELING: NEW DRUGS OF 1994-95 PART 2: RISPERDAL AND AMBIEN

Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to identify and discuss new drugs introduced to the marketplace during 1994-95, with special emphasis given to the new antipsychotic drug risperidone, and the hypnotic zolpidem.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. exhibit knowledge of the pharmacologic classification and therapeutic considerations for the drugs discussed;
2. select from a list, the indications, mechanisms of action, benefits and limitations of the drugs presented;
3. identify adverse effects, major toxicities, and drug interactions associated with these products as compared to previously available drugs; and,
4. demonstrate an ability to counsel patients on the drugs reviewed.

Schizophrenia

Schizophrenia is the most common psychotic disorder, affecting an estimated two million Americans. As with other mental disorders, schizophrenia is believed to be caused by an imbalance of neurotransmitters in the central nervous system (CNS). The thought process is believed to be a function of manufacture, release and reaction of numerous chemicals (neurotransmitters) which transmit messages from neuron to neuron in the CNS.

These chemical reactions tell us how to interpret stimuli from within the body and our environment, how to compare them with our previous life experiences and how to react. When the neurotransmitters (e.g., norepinephrine, dopamine, serotonin, acetylcholine, gamma-aminobutyric acid, endorphins, and many others) are produced and act in the proper balance with each other, we function "normally." When there is an imbalance, the affected person can suffer from different extremes of anxiety or depression.

Schizophrenia can be induced in animals by administering amphetamines, which activate

Table 1
New Hypnotic and Antipsychotic Agents

Generic Name	Trade Name	Availability	Dosage Regimen
risperidone	Risperdal	1,2,3, and 4mg tablets	1mg bid initially, titrated upward to 4 to 6mg/day
zolpidem	Ambien	5 & 10mg tablets	5 to 10mg at bedtime

the dopaminergic system in the brain. Subsequently, this induced psychosis can be reversed by administering dopamine blocking agents. This has been accomplished successfully in humans, and antipsychotic drugs have been the cornerstone of therapy for schizophrenia. The phenothiazine derivatives are dopamine blockers and have been used in therapy for many years. The major problem with their use is the relatively high incidence of drowsiness, orthostatic hypotension and Parkinson-like extra-pyramidal symptoms (EPS).

When introduced to the market, haloperidol replaced the phenothiazine derivatives to a large extent, but it also causes EPS. Clozapine (Clozaril) has little tendency toward EPS, but its major drawback is the potential for drug-induced agranulocytosis. Risperidone is devoid of significant EPS or agranulocytosis.

Schizophrenia, like other psychotic disorders, is believed to result from excessive release of and activity by dopamine and serotonin in selected regions of the CNS. Unlike many other psychotic disorders, it often begins early in life. This results in a chronic emotional disorder as well as social problems in terms of the family of the affected patient and the cost of treatment.

There are four described types of schizophrenia: catatonic, disorganized, paranoid and undifferentiated. Basically, the catatonic schizophrenic patient has difficulty moving about and performing simple tasks. The disorganized type is self-explanatory, and the paranoid patient is extremely suspicious of the intentions and actions of others. Undifferentiated schizophrenic patients suffer from both or all of these intermittently.

The psychotic symptoms of patients suffering from schizophrenia include abnormal perception, thought content and reaction to stimuli. They suffer from hallucinations, illusions and delusions. Hallucinations involve abnormal auditory disturbances in that the patient hears noises, voices or music when none are present. Illusions differ from hallucinations in that sensory stimuli are present, but they are misinterpreted. Delusions are inappropriate beliefs held by the patient in spite of reasonable evidence to the contrary.

Patients sometimes bounce between inappropriate and exaggerated responses to normal occurrences (such as laughing hysterically while talking about the death of a loved one), and a condition called "blunting" whereby they do not respond to stimuli that should arouse or depress them. Unfortunately blunting can also result from over-medication with antipsychotics.

Additional symptoms of schizophrenia include being able to converse with others in a manner that seems to be coherent, but does not convey useful information, and long periods of time before the patient responds to questions, to the extreme of being mute and not responding at all.

Traditionally, symptoms of schizophrenia have been divided into positive symptoms and negative symptoms. Foremost among the positive symptoms are abnormal thoughts for the general population such as hallucinations. Major negative symptoms involve the absence of normal response to everyday life such as social withdrawal and lack of motivation. One method of diagnosing schizophrenia is the use of the positive and negative symptom scale (PANSS), presented in Table 2. With older antipsychotic drugs, negative symptoms were more debilitating, but the positive ones responded better to therapy.

Treatment of Schizophrenia

One of the more amazing feats of neuropharmacology is that scientists have been able to identify the actual chemical configuration of physiologic receptor sites and identify subtle differences that cause drugs to stimulate some receptors, but not others. Therefore, drugs can be agonists (elicit the same effect as endogenous neurotransmitters), antagonists (block the action of endogenous neurotransmitters), mixed agonist/antagonist (stimulate some receptors and block others) and selective agonists or antagonists. With the latter, the drug will act on some physiologic receptors, but not others.

This is especially important for antipsychotic drugs because scientists have determined that the same basic chemical receptor configurations are present in some parts of the body, but not others. The classic examples are the histamine receptors. They are present in the connective tissue of the skin, brain and stomach. However, those in the brain and skin respond to traditional antihistamines (i.e., diphenhydramine) while those in the stomach respond to cimetidine, famotidine, nizatidine and rantidine, but not antihistamines. Therefore, they are now referred to as histamine-1 and histamine-2 receptors and antagonists.

The concept is similar with dopamine in that there are dopamine-1 and dopamine-2 receptors in different regions of the brain. Serotonin (5-HT) receptors are even more diversified. The 5-HT1 receptors are in the walls of blood vessels, 5-HT2 receptors are in the CNS, 5-HT3 receptors are in the gastroesophageal plexus and vomiting center (CTZ) of the brain, and 5-HT4 and 5-HT5 receptors are scattered elsewhere in the body.

Blockade (antagonism) of dopamine-2 receptors has been identified as the major factor in reducing the positive symptoms of psychoses. Blockade of the 5-HT2 receptors is considered to be the major factor in reducing negative symptoms. Prior to the introduction of clozapine, and now risperidone, conventional antipsychotics had been relatively unsuccessful in alleviating the negative symptoms. This is because conventional antipsychotics do not exert appreciable 5-HT2 blockade.

Risperidone-Trade Name: Risperdal

Risperidone {ris-PER-i-done} (Risperdal) {RIS-per-dal} is the second dopaminergic/seratonergic blocking agent to be approved for marketing, joining clozapine which was released several years ago. It is indicated for management of psychotic disorders, but like clozapine, it was approved by FDA based on studies demonstrating effectiveness in treating schizophrenia. Risperidone possesses advantages over clozapine and earlier available antipsychotics.

Table 2
Positive and Negative Symptom Scale for Schizophrenia

Positive Symptoms	Negative Symptoms
Conceptual disorganization	Apathy
Delusions	Blunted reactions
Excitement	Difficulty in abstract thinking
Grandiosity	Difficulty in flow of conversation
Hallucinations	Emotional withdrawal
Hostility	Lack of spontaneity
Persecution complex	Poor rapport
Suspiciousness	Social withdrawal

from the *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition

Mechanism of Action

Risperidone exerts dopamine-2 antagonism and 5-HT2 antagonism. Its highest affinity is for 5-HT2 receptors, then dopamine-2 receptors. While it has some alpha-adrenergic and histamine-1 blockade activities, there are far less than those with the phenothiazine derivatives. Risperidone is therefore considered to be more effective therapeutically than the phenothiazines with significantly fewer side effects.

Since it has not been linked to agranulocytosis as clozapine has, there is no need for the expensive weekly blood tests required by the latter drug. Risperidone is reported to be effective in approximately 80 percent of schizophrenic patients and considered to be the drug of first choice by most experts.

Side Effects

Side effects reported by the manufacturer at the 5 percent or higher level are: insomnia, 23 percent (vs 19 percent for placebo); agitation, 22 (vs 20) percent; extrapyramidal symptoms, 17 (vs 16) percent; headache, 14 (vs 12) percent; anxiety, 12 (vs 9); rhinitis, 10 (vs 4) percent; constipation, 7 (vs 3) percent; and nausea, 6 (vs 3) percent.

Insomnia

While nearly everyone experiences sleeplessness on occasion, it has been reported that more than 10 percent of Americans complain of clinical insomnia. Poor nighttime sleep and resulting next-day drowsiness cause diminished ability to concentrate, impaired memory, failure to complete daily tasks adequately and interpersonal difficulties.

As with mental disorders, insomnia is believed to be caused by an imbalance of neurotransmitters in the CNS. The sleep-controlling neurotransmitters include acetylcholine, dopamine, gamma-aminobutyric acid (GABA) and serotonin. The major one is GABA which reduces stimulatory impulses from reaching the higher centers of the brain, thus allowing for and maintaining sleep.

Pain, irritation, worry and emotional upset may interfere with the ability to fall asleep and

Table 3
Patient Information for Risperdal

Risperdal is used to treat psychotic disorders and other conditions as determined by your doctor.

- Risperdal should be taken with a full glass of water. It can be taken with or without food.
- Some people may experience dizziness, blurred vision or drowsiness from Risperdal. If you do, be careful driving or performing hazardous tasks. Alcoholic beverages can increase the drowsiness effect.
- Some people may experience dizziness or lightheadedness while taking Risperdal. If you do, sit or lie down at the first signs of dizziness, avoid sudden changes in posture, and be careful going up and down stairs.
- DO NOT take nonprescription cough/cold, asthma, hayfever, sleep aid or diet medications without asking your doctor or pharmacist.
- Risperdal may make your skin more sensitive to sunlight or sunlamps. Ask your pharmacist about a suitable sunblock product (of at least SPF 15) to reduce exposure problems.
- If you miss a dose of Risperdal, take it as soon as possible. but if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. DO NOT take a double dose, unless directed by your doctor. If you miss taking your medication for more than 2 days, you should contact your doctor for dosing instructions.
- Keep Risperdal at room temperature, in its original, labeled container and out of the reach of children. In case of accidental ingestion or overdose, call your doctor or poison control center immediately. DO NOT keep or use outdated medication.
- WOMEN: While taking Risperdal, you should tell your doctor if you plan to become pregnant, are pregnant, or if you are breast-feeding an infant.
- Most patients experience few or no problems while taking Risperdal. However, be sure to tell your doctor if the following occur: unusual anxiety or nervousness, shuffling walk, trembling hands, difficulty in speaking or swallowing, nausea or vomiting, difficulty in sleeping, constipation, or any other unusual, bothersome effects.

Adapted from the Pharmex PALs (patient advisory leaflets). For more information, call 1-800-233-0585

lead to nighttime awakenings and lighter sleep. Psychiatric disorders (including schizophrenia) also cause insomnia. Other causes include disruption of the normal sleep pattern (i.e., jet lag, work-shift change), change of environment (e.g., sleeping away from home), sleep apnea (shortness of breath and snoring), nocturnal myoclonus (periodic limb movements during the night) and taking CNS stimulants too late in the day.

Insomnia is especially prevalent in the elderly. The National Institutes of Health has reported that more than one-half of persons over age 65 who live at home, and more than two-thirds of residents in long-term care facilities, experience some type of sleep disorder.

Treatment of Insomnia

Before using hypnotics, it is recommended that other measures for treating insomnia be tried. These include withdrawal of excessive or inappropriate drugs and patient education on good sleep hygiene and stress management.

Currently, drug therapy for insomnia is based on drugs that enhance the activity of GABA, the benzodiazepine derivatives, and now zolpidem. GABA, as alluded to earlier, is an extremely important inhibitory neurotransmitter in the brainstem and foreparts of the higher centers of the brain. When released from storage, it reacts with its receptor sites thereby reducing CNS neuronal activity, thus inducing and maintaining sleep.

GABA acts by enhancing the entry of chloride ions into neurons. High intracellular chloride levels raise the threshold for depolarization. This is the process by which impulses pass along neurons causing them to fire and release their neurotransmitters. This means that GABA prevents the movement of stimulatory sensations upward to the cerebral cortex where the thought process takes place. With reduced stimulation from the environment, mulling over today's activities and worrying about tomorrow, consciousness is lessened, the individual relaxes and sleep follows.

Table 4
Patient Information for Ambien

Ambien is used to treat insomnia.

- Ambien should be taken with a full glass of water just before bedtime. If it upsets your stomach, ask your doctor about taking it with a light snack.
- If you experience any next day drowsiness from Ambien, DO NOT drive a car or perform hazardous tasks. Alcoholic beverages can increase the drowsiness when you take Ambien.
- It is important that you take Ambien exactly as your doctor has instructed. DO NOT increase your dose without consulting your doctor.
- Ambien is generally used for up to 2 weeks. If your sleep problems continue, talk to your doctor.
- Some people experience disturbed sleep for 1 or 2 days after discontinuing Ambien. This should go away in a few days. If it continues, contact your doctor.
- DO NOT take any nonprescription sleep aid or hayfever medication without first asking your doctor or pharmacist.
- Keep Ambien at room temperature, in its original, labeled container and out of the reach of children. In case of accidental ingestion or overdose, call your doctor or poison control center immediately. DO NOT keep or use outdated medication.
- WOMEN: While taking Ambien, you should tell your doctor if you plan to become pregnant, are pregnant, or if you are breast-feeding an infant.
- Most patients experience few or no problems while taking Ambien. However, be sure to tell your doctor if the following occur: unusual thoughts or behavior, excessive confusion or excitement, excessive dizziness or drowsiness, persistent headache, blurred vision, or any other unusual, bothersome effects.

Zolpidem—Trade Name: Ambien

Zolpidem {ZOL-pi-dem} (Ambien) {Am'-bien} is the first imidazopyridine hypnotic to be approved for marketing in the U.S. Its mechanism of action is similar to the benzodiazepine derivatives with some important differences.

Mechanism of Action

Zolpidem, like the benzodiazepine derivatives, links up with omega receptors on neurons. This sets off chemical reactions with the cell that make it easier for GABA to bind with its receptor sites. The net result is enhanced GABA activity and the promotion and maintenance of sleep.

As with other physiologic neurotransmitter/receptor systems, there are three subtypes of omega receptors. The omega-1 receptors are most associated with sleep and are concentrated in an area of the brainstem called the locus ceruleus or sleep center. Omega-2 receptors are more prevalent in the higher centers, and the omega-3 receptors occur mainly at the myoneural junctions where neurons meet and stimulate muscle tissue.

Therefore, drugs that act at omega-1 receptors are hypnotics, those that react with omega-2 receptors are anticonvulsants, and omega-3 agonists are muscle relaxants. Most of the benzodiazepine derivatives act at all three omega subtype receptors.

Zolpidem is different in that it only has significant affinity for omega-1 receptors. Because of this, it has no anticonvulsant or muscle relaxant activity and is specifically a hypnotic agent. This has major implication relating to its potential for abuse and addiction. While the DEA classifies all hypnotics as scheduled substances, there is evidence that the addiction potential for benzodiazepine derivatives is related to their ability to react with both omega-1 and omega-2 receptors.

Zolpidem is a schedule IV controlled substance. Several studies have demonstrated that it has limited abuse potential and many physicians agree.

Side Effects

Side effects for Ambien are mostly extensions of its CNS activity. Very few are seen with short-term use. Side effects reported by the manufacturer at the 5 percent or higher level based on long-term studies are: headache, 19 percent (vs 22 percent for placebo); drowsiness, 8 (vs 5) percent; muscle aches, 6 (vs 6) percent; nausea, 6 (vs 6) percent; and dizziness, 5 (vs 1) percent.

Dosage

The usual adult dose for Ambien is 10mg immediately before going to bed. This should be followed by adequate fluids to assure the tablet clears the esophagus. The initial dose for elderly or debilitated patients is 5mg.

The absorption of Ambien is delayed when the dose is taken with food, but the overall duration of action is not appreciably affected. Therefore, when a faster onset is desired, the manufacturer recommends that the dose not be taken with or immediately after a meal. Additional information useful in counseling patients is listed in Table 4.

CONTINUING EDUCATION QUIZ

Patient Counseling: New Drugs of 1994-95, Part 2: Risperdal and Ambien

1. Risperidone has a reported advantage over clozapine in that risperidone causes less of which of the following adverse drug reactions?
   a. Agranulocytosis
   b. Birth defects
   c. Extrapyramidal symptoms
   d. Hepatotoxicity

2. When considering the concept of how the thought process works and what causes mental disorders as they relate to neurotransmitters, of the following, the most important concept is:
   a. balance.
   b. ionization.
   c. polarization.
   d. valance.

3. The psychotic symptoms of patients suffering from schizophrenia include all of the following EXCEPT:
   a. delusions.
   b. hallucinations.
   c. melancholy.
   d. suspiciousness.

4. Risperidone exerts its greatest activity on which of the following sets of physiologic receptor sites?
   a. Alpha-2 and beta-2
   b. Beta-2 and 5-HT2
   c. Alpha-2 and dopamine-2
   d. Dopamine-2 and 5-HT2

5. Risperidone exerts which of the following actions on the receptor sites referred to in question #4?
   a. Blockade
   b. Stimulation

6. Risperidone has a reported advantage over haloperidol and the phenothiazine derivatives in that risperidone causes less of which of the following adverse drug reactions?
   a. Agranulocytosis
   b. Birth defects
   c. Extrapyramidal symptoms
   d. Hepatotoxicity

7. The most important neurotransmitter in relation to sleep and the action of hypnotic drugs is:
   a. acetylcholine.
   b. dopamine.
   c. gamma-aminobutyric acid.
   d. serotonin.

8. The neurotransmitter referred to in question #7 reduces CNS neuronal activity and allows for sleep by enhancing the entry of which of the following ions into neurons?
   a. Bicarbonate
   b. Chloride
   c. Potassium
   d. Sodium

9. Zolpidem exerts its greatest activity on which of the following physiologic receptor sites?
   a. Alpha
   b. Beta
   c. Delta
   d. Omega

10. The usual adult dose of Ambien is:
   a. 10mg immediately after supper.
   b. 10mg immediately before going to bed.
   c. 25mg immediately after supper.
   d. 25mg immediately before going to bed.

UNC External Pharm.D. Program
continued from page 26

earn his or her degree in two to three years. The maximum time allowed to fulfill all requirements will be five years.

The Pharmacy School is accepting 50 students per class. The first class began in mid January. The second class is scheduled to begin course work in August 1996, the traditional start of the academic year. After 1996, each new class will follow the traditional academic calendar. No summer courses have been planned.

Applications for the second external class will be due tentatively, March 31, 1996. Tuition and fees for the program will run about $210 per semester hour. UNC alumni and other practicing North Carolina pharmacists who would like more information about the newly-created external Doctor of Pharmacy program should contact the School of Pharmacy Office of Student Affairs at 919-962-0069.

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Patient Counseling: New Drugs of 1994-95, Part 2: Risperdal and Ambien

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
- Completed answer sheets may be returned on a monthly or less frequent basis for grading. **Quizzes not accompanied by payment will not be processed and will be discarded.**
- **This is a member service. Non-member tests will not be graded nor CPE credit hours given.**
- NCPhA will maintain a copy of your completed CPE tests and upon successful completion of each program, will issue a certificate for one (1) hour of North Carolina Board of Pharmacy approved CPE credit.
- If more than two (2) questions are answered incorrectly, the test is failed. You will be given one (1) opportunity to submit a second answer sheet.

Please circle correct answer

1. a b c d	4. a b c d	7. a b c d
2. a b c d	5. a b	8. a b c d
3. a b c d	6. a b c d	9. a b c d
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TECHNICIAN CERTIFICATION DATES ANNOUNCED

The Pharmacy Technician Board (PTCB) has announced the dates for the 1996 national pharmacy technician certification exams. The exam will be administered three times in 1996 in Asheville, Charlotte, and Durham.The exam dates and deadlines for registering/applying for the exams are as follows:

Exam Date	Application Deadline
July 27	May 31
November 2	September 6

Information about the exam and official application materials may be obtained by contacting NCPhA at 1-800-852-7343. The examination fee will remain at $95 for 1996. Successful candidates will be certified for a 2–year time period and are allowed to use the Certified Pharmacy Technician designation, "CPhT." Technicians may contact NCPhA to request study guides and other helpful information.

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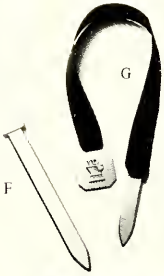

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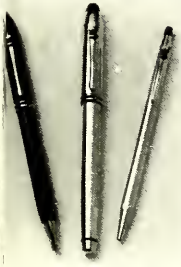

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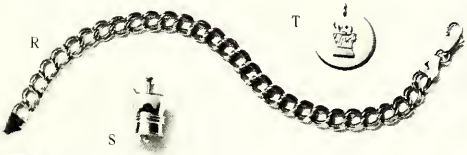

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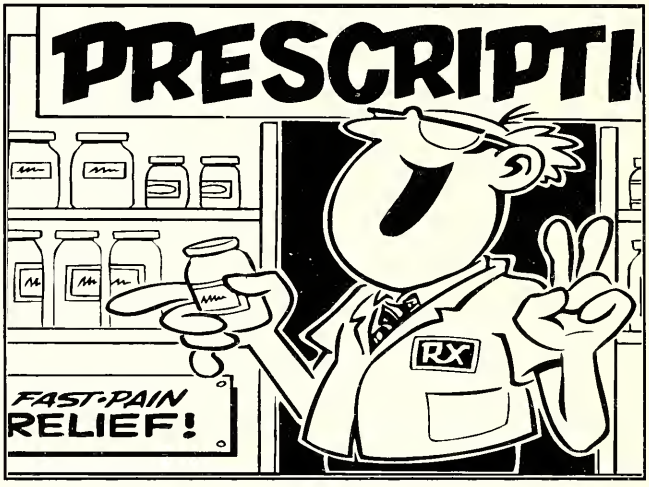

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UNITING FOR THE PROFESSION'S SUCCESS

by Rod Shafer, Executive Director
Washington State Pharmacist Association

Part of my decision to enter pharmacy as a profession, was based on the tremendous diversity of practice sites and job opportunities available to pharmacists. While this diversity should be celebrated and encouraged, it also has a "down side:" fragmentation of the profession at the association level.

Even as a student, I wondered at the variety of pharmacy organizations competing for my membership. Each implied they were better than the others. One touted that they were the organization who represented you "legislatively" and protected you from increasing government intervention; they protected you from "encroachment by other professional groups" onto pharmacy's turf. Another stated that they represented a more "clinical approach" to the profession and were, therefore, the wiser choice. Yet another claimed a more "business-like approach" to the profession was the answer.

The lifestyle of these organizations is very interesting. New groups are usually born out of frustration that the mother organization is not responsive to a particular special interest. They then strike out on their own, determined to meet the needs of their special membership. What they quickly find is that: 1) The small special interest group does not have adequate numbers and needs to expand the membership base to establish a stable and effective organization; 2) local, state, and national regulatory bodies influence all aspects of the profession. The organization then finds the creation of PACs and staffing of lobbyists necessary to protect and influence legislation favorable to their interests. Finally, 3) the organization realizes that the business and management segments of pharmacy are necessary components of a viable profession. The end product is an organization which looks and acts very much like the parent organization.

Fragmentation results in competition for resources, duplication of efforts, and time spent highlighting differences rather than exploring areas of commonality. The net effect of this is that people outside the profession receive a very confusing message. In these times of change, the profession must be united in its purpose and direction. Duplication of efforts with just a slight twist to meet special interest is a luxury we can ill afford. Resources such as time, people, and monies need to be used efficiently to achieve the maximum good for the profession as a whole.

Let's renew our efforts to seek areas of commonality, to re-examine our organizational structures, and be open to new relationships with peers, suppliers, and fellow medical providers.

The goal of improved health care outcomes through better pharmaceutical care transcends the profession and includes all players in the pharmaceutical community. Manufacturers and pharmacists must begin dialogue to insure proper use of pharmaceuticals. We must leave animosity and distrust to history and begin to develop programs and disease management plans that capitalize on the strengths of each profession. These programs and plans need to be developed with other health care professionals at the table to insure a team approach.

The phrase, "If we don't hang together we will surely hang separately" is as true today as it was in the Revolutionary War. Let's renew our efforts to seek areas of commonality, to re-examine our organizational structures, and be open to new relationships with peers, suppliers, and fellow medical providers.

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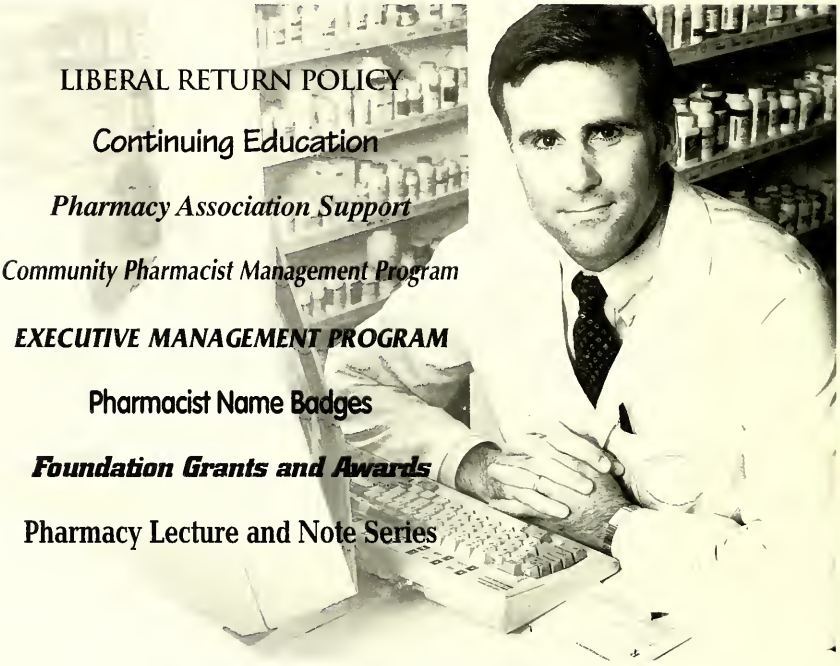
What pharmacists may think about SmithKline Beecham Pharmaceuticals

What pharmacists ought to know...



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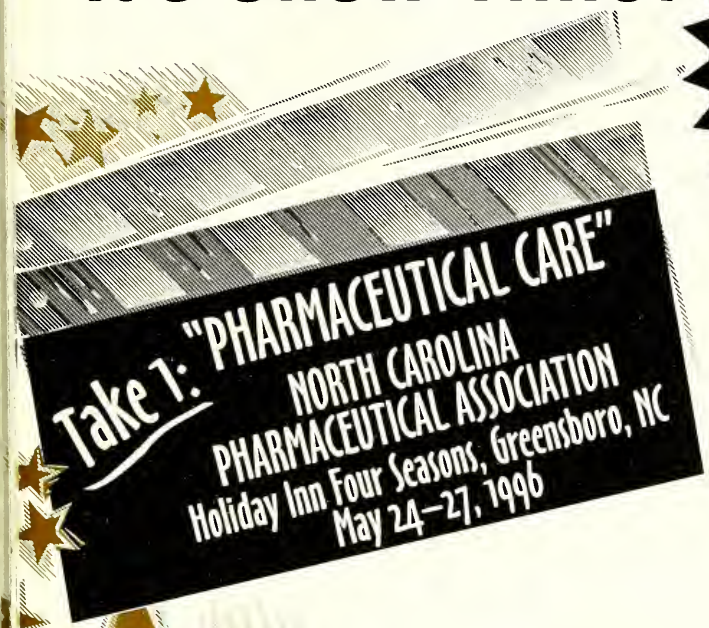

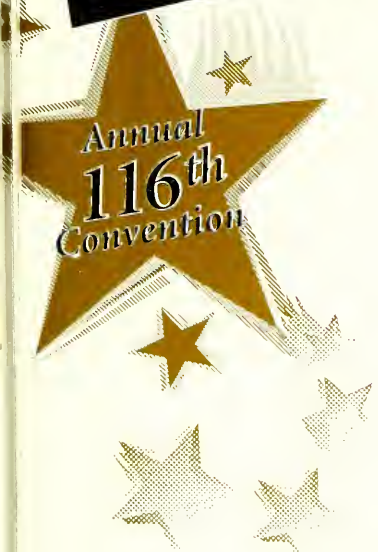

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The stage is set for the 116th Annual NCPhA Convention, May 24–27 in Greensboro, at the Holiday Inn Four Seasons.

We're rolling out the red carpet for you—"You Have A Starring Role in Pharmacy!"

The health care environment is rapidly changing. As we embark on a new millenium, many new challenges and unforeseen opportunities will emerge to help you succeed as a pharmacist. To stay competitive, it is more important than ever for you to stay on the cutting edge of the changes in technology, patient education, and patient care responsibilities.

The NCPhA annual meeting has been carefully planned to meet the needs of pharmacists in all practice settings. This meeting offers outstanding educational sessions, fabulous social events, an introduction to new products and services during the exhibit program, and an opportunity to expand your professional network.

Take a peek at some of the exceptional CE programs and special events available to you. Mark your calendar! This is a meeting you don't want to miss!

Special Events

NCPhA Awards Session—recognizing pharmacists from around the state for their outstanding contributions to the practice of pharmacy and for their efforts with community activities.

Awards Reception—honoring award recipients—an excellent opportunity to network with colleagues.

Opening Banquet—Carmen Hooker Buell, wife of UNC Chancellor Michael Hooker and former five-term state legislator of Massachusetts, will be the keynote speaker

Golf Tournament—to be held at Grandover, Greensboro's newest and one of the most challenging courses in the area.

Tennis Tournament—Sam Stuart will be host for this exciting tournament to be held at Latham Park in Greensboro.

Exhibits will be showcased on Sunday afternoon. Enjoy a delicious lunch as you browse through the exhibit hall and discover new products and services.

TMA Dance—featuring *The Coastline Band*

"Night of the Stars" Casino Party–Join the fun as we party Hollywood style. Dress as a famous star or in Hollywood attire* and enjoy an evening of fabulous food, entertainment, and take to the tables for Monte Carlo style casino games for a chance to win valuable prizes. **costumes encouraged, but not required*

Exceptional CE Programming

"Changing the Practice of Pharmacy" will be presented by Bruce A. Berger, Professor, Department of Pharmacy Care Systems at Auburn University, Alabama. This session will focus on the impact of managed care and technology on pharmacy practice.

"Making the Physician Your Friend" will focus on tactics for improving communications with physicians. Peggy Yarborough, R.Ph., M.S., Associate Director Pharmacy Education, Area L AHEC, will be the speaker for this Saturday afternoon workshop.

"Improving Patient Outcomes in the Asthma Patient" Dennis M. Williams, Pharm.D., Assistant Professor, UNC School of Pharmacy, through the use of brief scenarios and cases, will present this workshop which will examine pharmacists' involvement in a specialized practice to improve patient

outcomes and obtain compensation.

"Pharmacist Specialized Practice in Asthma & Overview of the Asthma Pharmaceutical Care Project," as a continuance of the Asthma Workshop, Bill Burch, owner of Central Pharmacy in Durham, will lead this segment of the workshop. Burch will describe an actual community practice where asthma patients are being cared for by their pharmacist followed by an update and presentation of the asthma protocol of the North Carolina Pharmaceutical Care Project.

"Software for Enhancing the Service-based Practice of the Pharmacist" will be presented by Bill G. Felkey, M.S., Associate Professor at Auburn University School of Pharmacy. During this session Felkey will discuss the impact of technology on the future of practice and evaluate software products available for adoption to practice.

"Legal Case Review," the grand CE finale scheduled for Monday, will be presented by David B. Brushwood, R.Ph., J.D., Gainesville Florida. Brushwood will evaluate the types of legal cases that pharmacists are increasingly facing in their daily lives.

The Coastline Band— on stage for the TMA Dance

Grandover Resort and Country Club— site of the NCPhA Golf Tournament

116th Annual Convention of the NCPhA and Affiliated Auxiliaries

PROGRAM

Friday, May 24,

3:00-6:00pm	Registration
5:00-6:00pm	NCPhA Awards Session
6:00-7:00pm	Reception Honoring Award Recipients
7:00pm	Opening Banquet Carmen Hooker Buell Chapel Hill, NC Keynote Speaker

Saturday, May 25

7:30am	TMA Foundation Breakfast
7:30am	UNC Alumni Association Breakfast
8:00am	Registration Desk Opens
8:30am-12:30pm	1st General Session ••2 hrs. ACPE #188-088-96-005•• "Changing the Practice of Pharmacy" Bruce A. Berger, Professor Department of Pharmacy Care Systems Auburn University School of Pharmacy Auburn, AL
	Town Hall—Open Mike
9:00am-5:00pm	Board of Pharmacy Exam Review
10:00am	WA Tour of Replacements Ltd. *(buses load at 9:30am)*
10:00-11:00am	TMA Business Meeting

12:30pm WA Luncheon and Musical Entertainment
City Club of Greensboro

Afternoon Golf Tournament at Grandover Resort and Conference Center

Afternoon Tennis Tournament at Latham Park

1:30-2:50pm Workshop "Implementing A Pharmacy Based Immunization Program" ••1.5 hrs. ACPE #188-088-96-006••
John S. Bullock, Pharmacist/Owner
Baggett Pharmacy
Levelland, Texas

1:30-2:50pm Workshop "Making the Physician Your Friend"
••1.5 hrs. ACPE #188-088-96-007••
Margaret C. Yarborough, R.Ph., M.S.
Associate Director Pharmacy Education
Area L AHEC
Assoc. Professor of Pharmacy Practice
Campbell University School of Pharmacy

3:00-5:00pm Workshop "Improving Patient Outcomes in the Asthma Patient"
••1 hr. ACPE #188-088-96-08••
Dennis M. Williams, Pharm.D., Assistant Professor
UNC School of Pharmacy
Chapel Hill, NC

"Pharmacist Specialized Practice in Asthma & Overview of the Asthma Pharmaceutical Care Project" ••1 hr. ACPE #188-088-96-09••
William H. Burch, R.Ph., Owner
Central Pharmacy, Durham

9:00pm-midnight TMA Dance featuring the "The Coastline Band"

Sunday, May 26

7:30am Christian Pharmacists' Breakfast

7:30am Kappa Psi Breakfast

8:00am Registration Desk Opens

8:30am WA Coffee

8:30am-12:30pm 2nd General Session ••2 hrs. ACPE #188-088-96-010••
"Software for Enhancing the Service-based Practice of the Pharmacist"
Bill G. Felkey, M.S., Associate Professor
Auburn University School of Pharmacy
Auburn, AL

Installation of NCPhA Officers

9:30am Woman's Auxiliary Business Session

12:30pm WA Luncheon & Fashion Show at Starmount Forest Country Club
(buses depart at noon)

WA Installation of Officers

1:00pm Exhibit Program and Lunch

4:00-5:00pm NC PharmPAC Meeting

6:00pm "Night of the Stars" Casino Party
Come dressed as a famous Hollywood star and savor a fabulous evening of lively entertainment, delicious food, and enjoy Monte Carlo style games of fun and chance and—win valuable prizes!

Monday, May 27

8:30am-Noon Final CE Session ••3 hrs. ACPE #188-088-96-011••
"Legal Case Review"
David B. Brushwood, R.Ph., J.D.
Gainesville, FL

PROGRAM EVALUATION AND ADJOURNMENT

CALL FOR RESOLUTIONS

Resolutions from NCPhA members may be submitted for study or action at the 116th NCPhA Annual Convention. Resolutions help guide NCPhA policy, planning, and actions. Each resolution is reviewed in advance by the Resolutions Committee for appropriateness and form. Resolutions are presented by the Resolutions Committee to the NCPhA membership during the 1st and 2nd General Sessions. You may submit your resolutions in writing by May 20, 1996 to:

Ginger Lockamy
Chairman, Resolutions Committee
6708 Candlewood Road
Raleigh, NC 27612

First-Ever

Woman's Auxiliary

ARTrageous Auction

The Woman's Auxiliary of the NCPhA will hold its first ever art auction Saturday, May 25, during the NCPhA Annual Convention in Greensboro. Proceeds from the auction will go towards scholarships for pharmacy students and pharmacy projects. The art will be on display at the convention in the NCPhA registration area. The auction will take place on Saturday night during intermission at the TMA Dance. The auction will feature original works of art and limited edition prints by North Carolina artists.

featured artists will include...

Joe Miller, Boone–*pharmacist and artist*
Charles Roy Smith, Charlotte–*artist*
Jerry Miller, Cary–*artist*
Pam Swarbrick, Wilmington–*water colorist*
Peggy Wharton, Chapel Hill–*artist and author*
Bob Allen, Raleigh–*pharmacist and artist*
Ruby Creech, Smithfield–*artist and Woman's Auxiliary member*
Billie Sumner, Charleston, SC–*artist*

In addition to the auction, the WA will once again hold a raffle. Items to be raffled include the **grand prize–$500**, a **$100 gift certificate from Circuit City**, an **autographed UNC basketball** and many other items donated by WA members. Tickets are $2 each and may be purchased at the WA Registration desk at the convention.

ATTENTION PHARMACISTS LICENSED 50 YEARS OR MORE

If you have been a pharmacist for 50 years or more—licensed in 1946 or earlier—you are eligible for induction into the NCPhA 50-plus Club. Inductees will be recognized at the Awards Session on Friday, May 24, during the 116th NCPhA Annual Convention at the Holiday Inn Four Seasons in Greensboro. Friends and family are welcome and invited.

Contact the NCPhA office if you qualify for "membership" into this elite group of pharmacists who have served their profession for 50-plus years. Call 800-852-7343.

North Carolina Board of Pharmacy Exam Review
Holiday Inn Four Seasons, Greensboro
Saturday, May 25, 1996

Program

9:00 - 9:05 a.m.	**Introduction of Program** Ronald W. Maddox, Pharm.D., Dean Campbell University School of Pharmacy
9:05 - 10:10 a.m.	**NC Pharmacy Law Review** David R. Work, R.Ph., J.D., Executive Director North Carolina Board of Pharmacy
10:10 - 10:30 a.m.	Refreshment Break Breaks jointly sponsored by Campbell University and UNC School of Pharmacy
10:30 - 11:45 a.m.	**Review of Parenteral Antibiotics** Byron May, Pharm.D. Campbell University School of Pharmacy Duke University Medical Center
11:45 - 1:00 p.m.	**Luncheon**
1:00 - 1:15 p.m.	**NC Pharmacy Format** Albert F. Lockamy, Jr., R.Ph. North Carolina Board of Pharmacy
1:15 - 2:10 p.m.	**Pharmacokinetics Review** Ronnie Chapman, Pharm.D. Pfizer Clinical Coordinator
2:10 - 2:30 p.m.	Refreshment Break
2:30 - 3:15 p.m.	**Review of Over-the-Counter Products** Stephen M. Caiola, M.S., R.Ph. UNC School of Pharmacy
3:15 - 4:30 p.m.	**Errors and Omissions: Compounding** Robert B. Greenwood, R.Ph., Ph.D. Campbell University School of Pharmacy
4:30 - 4:45 p.m.	Program Evaluation

☛ *Board of Pharmacy Exam Review information has been mailed to all Campbell and UNC School of Pharmacy students scheduled for graduation in May 1996. If you have not received this information, please call NCPhA at 1-800-852-7343.*

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The NCPhA Constitution and ByLaws Committee proposes the following changes/additions to the NCPhA Constitution and ByLaws.The changes will be presented to the membership May 25, 1996 during the 1st General Session and will be voted on during the 2nd General Session on May 26, 1996

CONSTITUTION
OF THE
NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Article I—Name

This Association shall be called ~~"The~~ *the* "North Carolina Pharmaceutical Association."

Article II—Purpose and Objectives

Section 1. Purpose: The purpose of this Association shall be to unite, ~~those concerned with pharmacy practice in North Carolina in serving the public as the profession responsible for providing pharmaceutical care and advancing~~ *serve, and advance* the profession of pharmacy.

Section 2. Objectives: The objectives of the Association are:

(1) To improve the science and art of pharmacy and to elevate its *practice* standards.

(2) To assist its members in achieving economic, educational, governmental, and professional goals.

(3) To promote and encourage political action in issues related to pharmacy.

(4) To encourage and assist pharmacists in providing pharmaceutical care.

(5) To promote the benefits of pharmaceutical care ~~to the North Carolina public~~.

(6) To promote and encourage the research, study, and resolution of issues related to the practice of pharmacy.

(7) To ~~interest individuals in pharmacy as a career through liaison and cooperation with the Schools of Pharmacy~~ *promote careers in pharmacy.*

(8) To promote *and support* pharmacy education ~~by assisting the Schools of Pharmacy in the development and implementation of their goals~~ *in North Carolina.*

(9) To ~~enhance contemporary practice of the membership through development, promotion, and provision of education resources~~ *provide educational resources to members.*

(10) To ~~secure and distribute on a timely basis to members of the Association information relevant to the practice of pharmacy~~ *communicate relevant information to its members on a timely basis.*

(11) To ~~adopt, encourage membership adherence to, and enforce a Code of Profes sional Ethics that will assure the public of high standards of professional practice~~ *maintain and enforce each member's adherence to the Association's Code of Professional Ethics.*

(12) To promote and encourage interdisciplinary communication ~~with other~~ *among*

health professionals.

(13)To support the Mission Statement for North Carolina Pharmacy

Article III—Code of Professional Ethics

Section 1. Code of Professional Ethics: The Association shall adopt a Code of Professional Ethics, the purpose of which is to elevate the standards of the professional practice of pharmacy and serve as a guide for the conduct and application of professional judgment by pharmacy practitioners. All applicants for active membership shall subscribe to the Association's Code of Professional Ethics.

Section 2. Ethics, Grievance and Practice Committee: The Ethics, Grievance and Practice Committee is the judicial division of the Association and shall be composed of five members, one of whom shall be an Executive Committee Member appointed annually. The executive director of the Association shall serve as the ex officio member of the Committee. It shall be the primary responsibility of the Ethics, Grievance and Practice Committee to ~~develop written criteria for membership, and~~ interpret and enforce the Association's Code of Professional Ethics according to the provisions of the Bylaws and procedures duly adopted by the Committee. The Committee shall also serve to advance the practice standards of the profession of pharmacy.

Section 3. Procedures Penalties, and Appeal: An active member may be reprimanded, suspended or expelled from membership for violation of the obligations of the Code of Professional Ethics. An active member against whom a complaint for violation of the Code of Professional Ethics has been received shall be provided written notice of the charges and an opportunity for a judicial review or hearing by the Ethics, Grievance and Practice Committee according to established due process procedures. All decisions of the Ethics, Grievance and Practice Committee shall be final unless appealed to the Executive Committee within sixty (60) days from the date on which the member received notification of the decision by the Ethics, Grievance and Practice Committee. The majority decision of the Executive Committee of cases on appeal shall be final and binding.

Article IV—Membership

This Association shall consist of Active, Life, *Retired*, Student, Honorary, and Associate Members.

Section 1. Active Member: An Active Member is a ~~pharmacist~~ *person* licensed to practice pharmacy under the ~~pharmacy~~ laws of this state, or a graduate of an accredited School *or College* of Pharmacy, who has paid the annual dues and ~~satisfies written criteria developed by the Ethics, Grievance and Practice Committee.~~ *subscribes to the Association's Code of Professional Ethics.*

Section 2. Life Member: A life member is an active member who has paid ten times the amount of the annual dues or who has been voted into Life Membership by the Executive Committee.

Section 3. Retired Member: A retired member is an active member who is eligible to receive social security retirement benefits, practices less than an average of twenty (20) hours per week, has paid one-half (1/2) of active member dues, and has requested retired member status.

Section 4. Student Member: A student *member is a person* enrolled in a School *or College* of Pharmacy ~~within this state is eligible for membership as a student member of the North Carolina Pharmaceutical Association at~~ *who has paid* the annual membership fee established by the Executive Committee ~~of this Association. A student member is not eligible to vote or hold office in the Association, but is entitled to all other rights of membership~~ *and subscribes to the Association's Code of Professional Ethics.*

Section 5. Honorary Member: *An honorary member is* ~~Any~~ *a* person who has achieved exemplary distinction in or for pharmacy or the health sciences ~~may be~~ *and who has been designated such*

status ~~an honorary member upon nomination~~ by the Executive Committee ~~be elected an honorary member~~. ~~Honorary members shall not have the right to vote or hold office in the Association but may attend meetings of the Association.~~ Honorary members shall be exempt from annual dues.

Section 6. Associate Member: *An associate member is* ~~Any~~ *a* person~~,~~ not eligible for active membership~~,~~ who is interested in the profession of pharmacy, ~~and~~ is willing to support the purposes and objectives of the ~~North Carolina Pharmaceutical~~ Association, *and has paid the same dues as an active member.* ~~An associate Member is entitled to all rights of membership except the right to vote or hold office.~~

Article V—Officers

The Association shall have the following officers: a President~~;~~, a President Elect~~;~~, a Past President, and an Executive Director. *The President Elect shall be elected annually by mail ballot and shall hold office until a successor is elected and installed. The President Elect shall automatically assume the office of President without being subject to further election. The Executive Director shall be appointed by the Executive Committee and be employed by the Association as chief executive officer under terms and conditions approved by the Executive Committee. A vacancy in the office of Executive Director shall be filled by an individual appointed by the Executive Committee*

~~Section 1. Election Process: The President-Elect shall be elected annually by mail ballot and shall hold office until a successor is elected and installed. The President-Elect shall automatically assume the office of President without being subject to further election.~~

Article VI —Amending the Constitution

Every proposition to ~~alter or~~ amend this Constitution shall be submitted in writing to the Constitution and Bylaws Committee ~~and, if~~. *If* accepted, *such proposition shall be* referred to the Executive Committee~~, who~~. *The Executive Committee* shall submit ~~it~~ *the proposition* in writing *to the membership at least thirty days prior to the next* ~~at an~~ annual meeting. It shall be acted upon at ~~the next~~ *that* annual meeting, where, upon receiving a vote of two-thirds of the *active* members present, it shall *be submitted to the entire membership for vote by mail ballot within thirty days of the meeting in which the proposition was approved. The proposition shall be approved by not less than two-thirds of the active members voting in the mail ballot in order to* become a part of the Constitution of the North Carolina Pharmaceutical Association..

BYLAWS
OF THE
NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Article I—Election of Officers

Section 1. A Nominating Committee of seven *active* members shall be annually chosen by the President, and charged with the duty of selecting candidates *from among the active membership* for the offices of President-Elect, three members-at-large of the Executive Committee of the North Carolina Pharmaceutical Association and any vacated unexpired terms of members-at-large. Nominees for President-Elect must have served at least one year on the Executive Committee.

Section 2. At the last session of each annual meeting, the Nominating Committee shall submit for approval a slate of two or more candidates together with written biographical sketches for the office of President-Elect, and six candidates for three places as members-at-large of the Executive Committee. Additional nominations, *each* with *a* written biographical sketch~~es~~ *and a supporting petition signed by ten (10) active members,* can be made from the floor. If a nominee for office withdraws or becomes

unable to run for any reason, *and there are thirty (30) or more days prior to distribution of ballots to the membership,* the nominating committee shall reconvene to make an alternate nomination. This alternate nomination shall need no other approval.

Section 3. The candidates so nominated shall be residents of North Carolina and a ballot containing their names shall be mailed by the Executive Director to every *active* member of the Association approximately four months prior to the date of the next installation of officers, together with a request that the members indicate their preferences on this ballot, and return the ballot to the NCPhA office within thirty days.

Section 4. The ballots received as indicated in the preceding paragraph are to be sent to ~~an~~ *the* "Election Committee" in care of the Executive Director~~, Chapel Hill~~. The Election Committee shall consist of four *active* members ~~selected~~ *appointed* by the *President* ~~Executive Committee of the North Carolina Pharmaceutical Association for a term of three years. The Election Committee shall count as votes in the annual election only those ballots received from members whose dues have been paid for the current year.~~ The Election Committee shall *open, count and* certify to the Executive Director the results of the tally, after which the ~~latter~~ *results* shall be published.

The Executive Director shall notify all candidates of the time and place of the meeting of the Election Committee and extend a written invitation to attend the counting of the ballots.

Section ~~4~~5. The officers thus elected by a plurality of the votes shall be installed at the final session of the next annual meeting.

Section ~~5~~6. Elected officers must be residents of North Carolina while serving their terms of office.

Article II—Duties of Officers

Section 1.THE PRESIDENT: The President shall:

(1) Preside at all meetings of the Association;
(2) Enforce the Constitution and Bylaws and parliamentary procedures in accordance with Robert's Revised Rules of Order;
(3) Appoint all committees not otherwise provided for or ordered by the Association;
(4) Be an ex officio member of all ~~committees,~~ academies, ~~and~~ delegations;, *and committees, with the exception of the Nominating Committee*;
(5) Fill by appointment all committee and office vacancies brought about by death or inability to serve except as otherwise provided in the Bylaws. Said appointee shall serve until the next regularly scheduled election;
(6) Be Chairman of the Executive Committee;
(7) Call special meetings of the Association at the written request of ten percent of the active members *or a majority of the Executive Committee*;
(8) Call special meetings of the Executive Committee at the written request of the majority of the Executive Committee;
(~~8~~9) Present a report of the affairs of the Association at each annual meeting;
(~~9~~10) Appoint a parliamentarian to serve at the annual or special meetings of the Association;
(11) Serve as an official spokesperson for the Association;
(~~10~~12) Perform such duties as pertain to this office;
(13) Serve from installation at one annual meeting of the Association to the installation of the President-Elect as President at the next annual meeting.

Section 2.THE PRESIDENT-ELECT: The President-Elect shall:

(1) Perform the duties of the President in the absence of the President;
(2) Become the President of the Association for the unexpired term of the elected President and shall continue to serve a regular term as President, if the office of President shall be vacated for any reason;

~~(3) Preside at meetings of the Association and of the Executive Committee, in the absence of the President;~~

(~~4~~3) Be elected by written ballot. In the event that this office is vacated for any reason, the office may be filled only by special election.

Section 3. THE EXECUTIVE DIRECTOR: The Executive Director shall:

(1) Serve as Secretary-Treasurer of the Association;

(2) Keep and maintain all records of the Association~~, including proceedings and all membership records~~;

(3) Review and evaluate ~~all~~ legislative/regulatory proposals affecting the pharmacy profession, and serve as a lobbyist for the Association;

~~(3) Collect moneys due the Association and shall deposit moneys in such depositories as the Executive Committee shall designate;~~

~~(4) Conduct the official correspondence of the Association and notify each member by mail of the meetings;~~

~~(5) Make disbursements as directed or outlined by the Executive Committee;~~

~~(6) Preserve all papers and archives of the Association;~~

(~~7~~4) Edit and distribute the official publications of the Association~~, *The Carolina Journal of Pharmacy;*~~

~~(8) Act as secretary to all committees of the Association;~~

(~~9~~5) ~~Have the authority to e~~*E*mploy *budgeted staff*~~, the appropriate individuals to aid in conducting the affairs of the Association~~

(6) *Serve as an official spokesperson for the Association;*

(~~10~~7) Discharge such other duties as the Executive Committee shall assign or designate.

The Executive Director shall be employed by the Executive Committee under contract. The Executive Director's ~~His~~ performance and compensation shall be reviewed annually by the Executive Committee. The Executive Director shall be bonded in an amount required by law and approved by the Executive Committee, said bond to be paid by the Association. A certified public accountant shall be engaged to audit the financial accounts of the Association and report to the Executive Committee.

Article III—Committees

Section 1. Standing Committees: There shall be ~~five (5)~~ *six (6)* committees of the Association:

(1) Executive Committee

(2) Finance Committee

(~~2~~3) Legislative Committee

(~~3~~4) Nominating Committee

(~~4~~5) Resolutions Committee

(~~5~~6) Ethics, Grievance and Practice Committee

Section 2. Composition and Responsibilities: The composition and responsibilities of the standing committees shall be as follows:

(1) Executive Committee—The Executive Committee shall consist of the President and the President-Elect, each serving a one-year term~~;~~*,* the two (2) immediate Past-Presidents, each serving a two-year term~~;~~*,* ~~and~~ six (6) members-at-large, three of whom are elected annually, each serving a two-year term~~;~~*, a representative from each North Carolina Pharmaceutical Association Academy, each serving a one-year term;* and the Executive Director.

The duties of the Executive Committee shall be ~~as follows~~:

A. ~~Take into consideration and a~~*A*ct upon all matters of business between annual meetings.

B. Approve *and monitor the annual budget*. ~~bonds sufficient to meet all legal requirements of the organization.~~

~~C. Select depositories in which funds and securities of the Association are deposited.~~

~~D. Direct the investment of funds of the Association.~~

~~E. Contract for and make necessary arrangements for editing and publishing *The Carolina Journal of Pharmacy* and other publications as the Association may direct.~~

~~C~~F. Employ the Executive Director and annually review performance and compensation

~~D~~G. Act on appeals from members emanating from decisions of the Ethics, Grievance and Practice Committee wherein sanctions are imposed for violation of the Code of Professional Ethics of the Association.

~~H. Have general charge and final authority over all affairs of the Association which are not specifically provided in the Bylaws.~~

~~E~~I. Perform other functions necessary for the efficient operation of the Association.

(2) Finance Committee —The Finance Committee shall consist of at least four (4) members appointed by the President.

The duties of the Finance Committee shall be:

A. Prepare and review the annual budget, financial and investment policies and procedures, and the formulation of other pertinent financial statements and reports.

B. Assure that the Association's financial records and statements are audited annually.

C. Present annual budget, investment recommendations and other plans for revenue generation, and financial policies to the Executive Committee for review and approval prior to implementation.

D. Assist and advise the Executive Director in all financial matters.

(23) Legislative Committee—The Legislative Committee shall consist of *at least* seven (7) members appointed by the President. Non-voting advisory members may be appointed by the President ~~as deemed necessary~~.

The duties of the Legislative Committee shall be ~~as follows~~:

~~A~~B. ~~Use its efforts in sponsoring~~ *Support* the passage of such legislation as the Association may specifically recommend.

~~B~~C. Oppose such legislation as the Association resolves to oppose.

~~C~~D. Between annual meetings of the Association, if ~~anticipated~~ legislative ~~developments~~ *concerns* occur, ~~the Legislative Committee~~ shall *request* ~~ask for~~ a called meeting of the Executive Committee ~~in order that the latter committee may act officially for the Association in~~ *to* advis*e*~~ing~~, approv*e*~~ing~~ or oppos*e*~~ing~~ such measures or methods as the Legislative Committee may present.

~~D~~A. Review and evaluate all legislative/regulatory proposals affecting the profession of pharmacy.

E. Submit a report to the Association at the annual meeting ~~by the Chairman of the Legislative Committee or his appointed representative~~.

(~~3~~4) Nominating Committee—The Nominating Committee composition and functions are described in Article I, Section 2, Bylaws.

(~~4~~5) Resolutions Committee—The Resolutions Committee shall consist of five (5) members appointed by the President.

The ~~duties~~ *functions* of the Resolutions Committee shall be ~~as follows~~:

~~A~~B. Ensure that resolutions~~, position papers, and similar proposals which seek~~ to establish Association policy or action are made appropriate and ready for consideration by the Association.

~~B~~A. Receive resolutions from Association members for study and action at annual meetings. Resolutions must be in writing and *should be received by the Executive Director ten (10) days prior to the annual meeting, but* ~~presented~~ no later than the first *business session* ~~day~~ of the annual meeting ~~if the meeting is scheduled for more than one day and no later than noon if the meeting is scheduled for one day only~~. The Committee shall not process proposals submitted from the floor as new business.

~~C. Act on all proposals submitted to it and decide on matters on which the Association should take a public stand.~~

~~The functions of the Resolutions Committee shall include:~~

~~A. Returning to the originators with appropriate explanations those proposals which lack clarity or are duplications, nonsubstantive, poorly formulated or inconsistent with the Association's Constitution and Bylaws.~~

~~B. Referring to proper units or officials of the Association those proposals appropriate for their action or for preliminary processing or study prior to submission to the Association.~~

~~C. Clarifying, consolidating, and coordinating those proposals wherein potential confusion or duplication exists.~~

~~D~~*C.* Present~~ing~~ to the Association with recommendations for disposition those ~~proposals~~ *resolutions* which are appropriate to and ready for action by the Association.

~~E. Reporting to the originator the disposition of any proposal which is not presented to the Association for action.~~

~~The Committee shall establish guidelines for submission of proposed actions, policies, or organizational positions and establish timetables for consideration of such proposals. The guidelines and timetables, after approval by the Executive Committee, should be made known to all members of the Association at least six months in advance of the annual meeting.~~

~~The Committee will consider only resolutions and policy statements of a substantive nature affecting Association policy or pharmaceutical education and practice submitted at the annual meeting of the Association from various sources and will process them according to the above five functions. It is the responsibilities of the committees and groups preparing statements on policy to notify the Committee of proposed non-urgent policy requests well in advance of the annual meeting. In the absence of action by the Committee, the proposals shall be forwarded to the Executive Committee.~~

(~~5~~*6*) Ethics, Grievance and Practice Committee—The Ethics, Grievance and Practice Committee composition and functions are described in Article III, Section 2 of the Constitution.

Section 3. Appointive Committees: The President shall appoint ~~the~~ Committees to be assigned applicable powers and duties, consistent with the Association's Constitution and Bylaws~~, for example~~;.

~~(1) Continuing Education~~
~~(2) Endowment/Consolidated Pharmacy Loan Fund~~
~~(3) Public and Professional Relations~~
~~(4) Public Health~~
~~(5) Social and Economic Relations~~
~~(6) Third Party~~
~~(7) Constitution and Bylaws~~
~~(8) Membership~~

Section 4. Term: The term for each member of any committee shall be one year, with the term ending at the close of the annual meeting following appointment, except as noted otherwise in these Bylaws. Except for the ex officio member*(s)* of the committee, a member shall not serve on any *standing* committee for more than four (4) consecutive years or more than three (3) committees concurrently.

Section 5. Vacancies: Vacancies on any committee may be filled for the unexpired portion of the term in the same manner as provided in the case of original appointments.

Section 6. Powers and Duties: Committees created under the provisions of these Bylaws shall have such powers and duties as are specifically given to them ~~from time to time~~ by the Executive Committee. ~~Each Committee may conduct hearings, perform studies, and make reports exclusively to~~

~~the Executive Committee as deemed necessary by the Committee, provided, however, all such Committee activity shall be in accordance with the objectives of the Association as defined in the Articles of Incorporation, in the Constitution and these Bylaws, or by the Executive Committee.~~

~~Reports of the Committees shall be submitted to the Executive Committee, and shall not be binding on the Association or the Executive Committee. The Committees shall submit such reports on such dates as may be specified by the Executive Committee, and where action by the Executive Committee is requested or required, such reports shall be forwarded to members of the Executive Committee not later than ten (10) days prior to the Executive Committee meeting at which action is to be taken. The ten (10) day report submission requirement may be waived by a two-thirds (2/3) majority vote of the Executive Committee.~~

Section 7. Quorum: A majority of the members of the Committee shall constitute a quorum and the act of a majority of the members present at any meeting at which a quorum is present shall be the action of the Committee. In the absence of a quorum, those members present can develop recommendations for the Executive Committee's consideration, provided the recommendations are presented to the Executive Committee with a statement identifying who *were* ~~was~~ present and that the recommendations were developed at a meeting without a quorum present.

Section 8. Rules and Procedures: Each committee may adopt rules and procedures for its own governance ~~which are not inconsistent with law, these Bylaws, the Articles of Incorporation, and any restrictions or other actions by the Executive Committee~~.

Section 9. Meetings: Committees shall meet, *given sufficient notice,* ~~from time to time~~ on *the* call of the President or of the Committee Chairman. ~~At least seventy-two (72) hours confirmed notice shall be given to all committee members by the person calling the meeting, or by the Executive Director.~~

~~Section 10. Waiver of Notice: The transaction of a meeting, (whether regular or special) shall not be invalid merely because a required notice was not given, as long as a quorum was present at said meeting and the absent members signed a written waiver of notice or gave their written consent to any action taken at such meeting, either before or after the meeting. Appearance at any such meeting for any reason other than to contest notice shall also constitute waiver of the required notice provisions.~~

~~Section 11. Expulsion: Committee members who miss more than two (2) consecutive or any three (3) meetings of a Committee without reasonable cause and prior notification to the committee chairman or the Executive Director shall be expelled. Absences shall be explained in writing within thirty (30) days to the Executive Director.~~

Article IV — Academies

Section 1. Establishment of Academies: Any group of 30 or more active members may petition the Executive Committee to form an academy within the organizational structure of the North Carolina Pharmaceutical Association. Such a petition must be based upon a demonstrated need and represent an identifiable and distinct field of practice that calls for special skill and knowledge. All academies shall be established on a statewide basis and membership therein shall be open to all active members *who meet the academy's qualifications. If an existing academy does not have 30 or more members for two consecutive years or ceases to fulfill its original need and purpose as stated in its petition for formation, it shall be dissolved with the approval of the Executive Committee.*

Section 2. Structure: Each academy shall have ~~as~~ officers ~~a President, Vice-President,~~ and ~~Secretary. Each academy shall also have~~ a Board of Directors ~~of four active members of the academy~~.

Section 3. Executive Committee Representation: Each academy shall select a member who shall serve as a voting member of the Executive Committee of the North Carolina Pharmaceutical Association.

Section 3*4*. Purpose and Function of Academies: Academies shall have as their basic purpose the establishment and elevation of practice standards within a given practice area. Specific functions of North Carolina Pharmaceutical Association academies are to include educational, professional, governmental and economic affairs related to ~~a~~ *their* specific practice area. ~~Academies shall have no policy-making authority with respect to the Association's position on given issues, but may make specific policy recommendations to the Executive Committee.~~

Article V—Membership

Section 1. Active Members: All pharmacists meeting the qualifications of Article IV, Sections 1, *2, and 3* of the Constitution are eligible for active membership in the North Carolina Pharmaceutical Association. *All active members shall have the right to vote and hold office in the Association.* Each applicant will complete a membership form available from the Association office and submit it together with annual dues ~~in accordance with Subsection (1) below~~.

(1) Dues: All members shall pay the Executive Director in advance the annual dues as voted by the Executive Committee. Pharmacists residing out-of-state shall pay one-half (1/2) the annual dues. Husband and wife pharmacists shall pay one and one-half the annual dues and shall receive one mailing, with the exception of Association mail elections, for which they shall each receive a ballot.

(2) Non-Payment: ~~Any member in arrears at any annual meeting shall not be entitled to vote.~~ Anyone neglecting to pay annual dues shall lose membership *and not be entitled to vote* in the North Carolina Pharmaceutical Association.

(3) Reinstatement: A member suspended from a membership classification under this Article may be readmitted upon compliance with either of the following requirements:

(A) Submission of an application for membership classification as if the person was a new member, accompanied by payment of the appropriate dues. In such case, the membership classification shall date from the time of reinstatement.

(B) Submission of all dues and assessments in arrears. In such case, the membership classification shall date from the original date elected to the membership classification.

(4) Resignation: Resignation of membership shall be made in writing to the Executive Director. The Executive Director shall acknowledge all resignations in writing and shall report them to the Executive Committee.

Section 2. Life Members: Any member in good standing meeting the qualifications of Article IV, Section 2 of the Constitution is eligible for life membership, and thereafter shall be exempt from all future annual dues. ~~The cost of such membership shall be ten (10) times the individual's maximum annual dues.~~

~~Also, the Executive Committee is empowered to vote a Life Membership to a member whose contributions to the profession of Pharmacy and/or the Association have been outstanding.~~

Section 5*3*. Retired Members: Any active member ~~who is receiving social security retirement benefits, and practices less than an average of twenty (20) hours per week, is eligible for retired pharmacist membership. The dues for a retired member shall be one-half (1/2) that of active members.~~ *meeting the qualifications of Article IV, Section 3 of the Constitution shall be a retired member of the Association. A retired member is eligible to vote and hold office in the Association.*

Section 3*4*. Student Members: Any student in a *S*school *or College* of *P*pharmacy meeting qualifications of Article IV, Section 3*4* of the Constitution~~, and paying the annual dues as determined by the Executive Committee is eligible for membership~~. *shall be a student member of the Association. A student member is not eligible to vote or hold office in the Association but is entitled to all other rights of membership.*

Section 4*5*. Honorary Members: Honorary membership may be conferred upon non-members

meeting the qualifications of Article IV, Section 5 of the Constitution. ~~who have made noteworthy contributions to pharmacy. Nominations for such honorary members shall be made to the Executive Committee who shall consider and act upon such nominations.~~ Honorary members shall *not* have the *right to vote or hold office but are entitled to all other rights of membership* ~~have the privileges as set forth in Article IV, Section 4 of the Constitution~~.

Section 6. Associate Member: Any person~~, not eligible for active membership, who is interested in advancing the profession of pharmacy and is willing to support the purpose and objectives of the North Carolina Pharmaceutical Association. The dues for an Associate Member shall be the same as that for an Active Member.~~ *meeting the qualifications of Article IV, Section 6 of the Constitution shall be an associate member of the Association. An associate member shall not have the right to vote or hold office but is entitled to all other rights of membership.*

Article VI—Meetings

Section 1. Official Meetings: The Association shall convene an annual meeting each year and such interim or special meetings as necessary to conduct the business of the Association. The membership shall be notified at least sixty (60) days in advance of an annual meeting and at least thirty (30) days in advance of an interim or special meeting of the Association.

Section 2. At the opening of each annual meeting, in the absence of the President or President-Elect, a member of the Executive Committee shall take the chair. In the absence of all, a President pro tempore shall be elected by the members present. In the absence of the Executive Director, the presiding officer shall appoint a Secretary pro tempore.

Section 3. Quorum: Fifty members present eligible to vote constitute a quorum.

Section 4. Registration Fee: A registration fee shall be paid by each person participating in the affairs of the annual convention, except for student members. The amount of such fee shall be fixed annually by the Executive Committee.

Article VII—Student *Organizations* ~~Members.~~

There shall be a student *organization(s)* ~~branch~~ of the Association, the membership to be composed of and limited to regularly enrolled students in a school of pharmacy within the State of North Carolina. ~~The Branch must organize itself and elect a president, a secretary, and a treasurer.~~ These officers shall be responsible to the Executive Director of the Association for funds collected as annual Association dues. *Each student organization* ~~It~~ shall have a *governing document* ~~constitution and bylaws~~ which shall be approved by the Executive Committee *of the Association* ~~and then by the membership at the next annual meeting~~.

Article VIII—Delegates

The Executive Committee shall ~~annually~~ appoint its allotted number of delegates to *those organizations with which it has such privilege* ~~the American Pharmaceutical Association Annual Meeting House of Delegates, the National Association of Retail Druggists Annual Meeting and the U.S. Pharmacopeial Convention~~.

Article IX—Amending the Bylaws

Every proposition to alter or amend these Bylaws shall be submitted in writing to the Constitution and Bylaws Committee and, if accepted, referred to the Executive Committee who shall submit it in writing at one business session of an annual meeting and shall be decided by *vote* ~~ballot~~ at a subsequent session when, upon receiving a vote of two-thirds of members present eligible to vote, it shall become part of the Bylaws.

Article X—Auxiliaries

Section 1.Authorization: The ~~North Carolina Pharmaceutical~~ Association authorizes the organization of auxiliaries ~~of the North Carolina Pharmaceutical Association~~ to be permanent organizations to aid in the Association's activities.

Section 2.Membership: Membership of the auxiliaries shall be comprised of either spouses of members or representatives of pharmaceutical manufacturers or suppliers ~~who sell to pharmacists and to the drug trade in general~~.

Section 3.Dues: Each member of an auxiliary shall pay annual dues to *its* ~~the~~ Treasurer ~~of an auxiliary~~ in an amount approved by the auxiliary and the Association.

Section 4.Function: The Executive Committee of the ~~North Carolina Pharmaceutical~~ Association shall work with the auxiliaries in matters pertaining to ~~the~~ program activities.

Adopted Friday, April 22, 1985, at the Annual Meeting in Raleigh, North Carolina. Amended at the 1992 Annual Meeting in Pinehurst, North Carolina; at the 1993 Annual Meeting in Atlantic Beach, North Carolina; and at the 1996 Annual Meeting in Greensboro, North Carolina.

REPORT OF THE NCPhA ELECTIONS COMMITTEE

The members of the NCPhA Elections Committee met on Wednesday, April 10, 1996 at the Institute of Pharmacy in Chapel Hill to open, tally and record the ballots cast in the 1996 mail election.

The results of the election are:

For President Elect:

Jimmy Jackson, *Garner*

For Member of the Executive Committee, for two-year terms:

Linda Butler, *Chapel Hill*
Stephen C. Dedrick, *Durham*
Kevin L. Almond, *Chapel Hill*

Members of the 1996 Elections Committee are Melvin Chambers, Lee Werley, Frances Gualtieri, Linda Butler.

CORRESPONDENCE COURSE

PATIENT COUNSELING: NEW DRUGS OF 1994-95 PART 3: APROTININ, CALCIPOTRIENE, AND STAVUDINE

Thomas A. Gossel, R.Ph., Ph.D.
Dean and Professor of Pharmacology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to identify and discuss the actions and reactions of three new drugs introduced into therapy during 1994-95.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. exhibit knowledge of the pharmacologic classification and therapeutic considerations for the drugs discussed;
2. select from a list, the indications, mechanisms of action, benefits and limitations of the drugs presented;
3. identify adverse effects, major toxicities, and drug interactions associated with these products; and
4. demonstrate an ability to counsel patients on the drugs reviewed.

Aprotinin— Trade Name: Trasylol

Aprotinin (Trasylol-TRAY-sil-ol) is a naturally-occurring polypeptide with a complex, and not fully understood mechanism of action. Classified as a protease inhibitor, it is indicated for use in the reduction or prevention of blood loss in high-risk patients undergoing coronary artery bypass graft (CABG) surgery. It is also approved for use in selected cases of primary CABG surgery where the risk of bleeding is particularly high (impaired hemostasis: e.g., recent or concurrent use of aspirin or other anticoagulants). The decision on whether to use it in primary CABG surgery patients is based on the risk of renal dysfunction and on the potential for anaphylaxis, should a second surgical procedure be required where the drug would be necessary.

Aprotinin was approved in 15 countries for a variety of blood loss related conditions prior to its approval in the U.S. It was first used in the U.K. 30 years ago for pancreatitis.

Aprotinin has orphan drug status. An orphan disease is defined as one that affects fewer than 200,000 persons in the U.S., or more than 200,000 persons in the U.S for which there is no reasonable expectation that the cost of developing and marketing the therapeutic agent would be recovered under the current FDA approval system.

Table 1
Aprotinin, Calcipotriene, and Stavudine

Generic Name	Trade Name	Availability	Dosage Regimen
aprotinin	Trasylol	1.4mg/mL in vials of 100 and 200mL	Test dose of 1mL IV 30 min. pre-op; then loading dose of 200mL over 20-30 min; then 50mL/hr.
calcipotriene	Dovonex	0.005% ointment	Apply thin layer to affected skin b.i.d.
stavudine	Zerit	15, 20, 30, & 40mg capsules	40mg b.i.d. q 12 hr.

Mechanism of Action. Aprotinin is an antifibrinolytic agent and a protease inhibitor. Its precise mechanism of action is complex and largely unknown. The drug inhibits a number of enzymes including plasmin, trypsin, chymotrypsin, plasmin-streptokinase, and kallikrein. The strength of aprotinin is expressed in terms of its activity against this latter enzyme. The primary effect of the drug during CABG surgery is attributed to maintenance of platelet function. During these procedures, temporary loss of platelet function is the most common and clinically relevant hemostatic change.

Adverse Reaction. Aprotinin is generally well tolerated. Adverse effects reported with its use are associated with complications of open heart surgery (e.g., atrial fibrillation, myocardial infarction, and heart failure) and are not necessarily attributable to aprotinin therapy. For example, in studies representing 364 patients treated with aprotinin and 235 patients who received placebo, one or more adverse events was reported in 70 percent of both groups, atrial fibrillation (25 percent in aprotinin-treated vs. 22 percent with placebo), myocardial infarction (10 percent vs. 7 percent), and heart failure (8 percent vs. 6 percent).

There is concern about anaphylactic reactions which occur more frequently with repeated drug administration. According to its labeling, 13 cases of anaphylaxis, including four deaths, were reported in 7,000 patients who had prior exposure to the drug. In 140,000 patients who were first-time recipients, five incidents of anaphylaxis with one death were noted. Its manufacturer states that anaphylaxis has been reported in less than 0.5 percent of patients in postmarketing trials outside the U.S.

Use in Therapy. Aprotinin is useful for reducing blood loss and reducing the need for blood transfusions during cardiopulmonary bypass surgical procedures. There may be additional benefit during liver transplantation and peripheral vascular surgery. Aprotinin appears to be the most useful pharmacologic agent for this.

Because of its high cost and potential for serious toxicity, some authorities argue that it should not be used routinely in cardiac surgery. Its use in first-time surgeries is also questioned since many of these patients will not lose excessive blood, and the drug places the patient at increased risk for allergic reactions if it is needed in later (or subsequent) cardiopulmonary bypass procedures.

Monitoring of Anticoagulation. Since aprotinin prolongs the whole-blood clotting time, the standard method for monitoring heparin levels may not be accurate. Its use in patients with cardiopulmonary bypass grafts (e.g., maintaining the activated clotting time above 400 to 450 seconds) may lead to inadequate heparin dosing.

Therefore, it is recommended that the stan-

dard loading doses of heparin be administered prior to surgery. Additional heparin can be given as needed, either by a fixed-dose regimen based on patient weight and duration of the procedure, or on the basis of heparin levels measured by a method that is not affected by aprotinin, such as protamine titration.

Dosage and Availability. The recommended dosage regimen includes a test dose of 1mL (1.4 mg) intravenously 30 minutes before surgery. If no allergic reaction occurs, 200mL is infused over 20 to 30 minutes after induction of anesthesia. During the surgical procedure, the drug is infused at a rate of 50mL/hour.

Trasylol is available in vials containing 10,000 KIU/mL (KIU = Kallikrein Inhibitor Unit). This equals 1.4mg/mL aprotinin.

Calcipotriene—Trade Name: Dovonex

Calcipotriene (Dovonex-DOE-va-nex) is a synthetic vitamin D derivative that inhibits cell proliferation and stimulates cell differentiation. It is indicated for the treatment of moderate psoriasis.

Psoriasis

From one to three percent of Americans are reported to be afflicted with psoriasis. It is an extremely serious disorder to its sufferers because plaques visible on exposed areas of the body may cause them to avoid social contact with the public.

Psoriasis, a chronic inflammatory skin condition, is characterized by pink or dull-red lesions that have distinctive borders and are covered with thick silvery-colored scales. If these scales are removed, the underlying skin may bleed, a phenomenon referred to as **Auspit's sign.** Some patients experience constant scaling associated with itching and discomfort, while others may undergo variable periods of remission. The most characteristic symptom is chronic itching, noted in over 80 percent of patients.

The designation **psoriasis vulgaris** describes the disease that results when lesions coalesce into large, usually symmetrical areas. These are most commonly seen on the elbows, knees and lower back.

Psoriasis is characterized by alterations in the epidermis. This leads to rapid cell turnover, along with inflammation of the underlying capillaries. Epidermal cells are continually formed from the lower skin layers. Young cells migrate upward toward the skin's surface. In healthy skin, there is insufficient nutrition to sustain their life and they die as they approach the surface and dehydrate. These dead, dried, and highly compacted cells comprise the keratin (stratum corneum) layer.

With normal skin "wear and tear," replacement cells from underneath push upward and the outermost layer of keratin sloughs off continually. This ordinarily requires three to four weeks for completion. In psoriasis, however, the keratin turnover rate is increased to three or four days. Consequently, both live and dead cells accumulate on the skin's surface to form the thickened, scaly patches that have the characteristic silvery appearance.

The immune system may also play an important contributory role in psoriasis. For example, IgG levels can be detected in psoriatic lesions. IgG is the most important of the immunoglobulins (antibodies) that are responsible for combating infection and invasion by foreign protein. One hypothesis suggests that patients with psoriasis lose the suppressant action of their immune system, and antibodies form in response to skin antigens. This permits formation of antigen-antibody complexes, a leukocyte response, and eventually the in-

Table 2
Patient Information for Calcipotriene

1. Apply the ointment twice daily.
2. Avoid application to the face.
3. Wash hands after application.
4. The maximum dosage is 100g/week.
5. The ointment can be combined with UVB radiation for enhanced efficacy.
6. There is no clinical experience with use of the ointment during pregnancy or in children.

flammatory lesions characteristic of psoriasis.

Although many other theories have been advanced to explain the causes of psoriasis, no single hypothesis explains all ramifications. Several therapies alleviate the condition, including the vitamin D derivative calcipotriene.

Mechanism of Action of Calcipotriene. Vitamin D is best known for its role in the regulation of intestinal calcium absorption, bone mineralization, and prevention of rickets. Vitamin D_3 (cholecalciferol) is formed in human tissues via ultraviolet (UV) irradiation of 7-dehydrocholesterol. Vitamin D_3, in turn, is hydroxylated in the liver and kidney to 1,25-dihydroxyvitamin D_3, the biologically active metabolite.

The physiologic effects of 1,25-dihydroxyvitamin D_3 are achieved when it binds to vitamin D receptors (VDRs). These receptors are found in numerous cells not involved with regulation of calcium metabolism. These include human epidermal keratinocytes, dermal fibroblasts, hematopoietic cells, and many cancer cells. In human epidermal keratinocytes and other cell types, 1,25-dihydroxyvitamin D_3 has been shown to inhibit cell proliferation and induce cell differentiation. This, along with knowledge that systemic effects on calcium and bone metabolism are at least 100 to 200 times less than those of 1,25-dihydroxyvitamin D_3, was the basis for development of calcipotriene and other synthetic vitamin D derivatives to be used in the treatment of psoriasis.

The VDR binding sites are of the same type as those for other steroids such as estrogen, glucocorticoids, and retinoic acid. A single VDR type is believed to be common to all cells and tissues. Calcipotriene binds to VDRs in many cell types with the same affinity as 1,25-dihydroxyvitamin D_3, and mediates the receptors' actions.

The drug exerts immunologic effects that are qualitatively and quantitatively similar to actions of 1,25-dihydroxyvitamin D_3. These include inhibition of thymocyte (cells of thymus origin; precursors of T cells) proliferation induced by interleukin and reduction of immunoglobulin production by interfering with T-helper cell functions. Calcipotriene has also been shown to inhibit lymphocyte proliferation in mononuclear cells and some epidermal cells. These actions on immune functions may contribute to the drug's overall benefit in the treatment of psoriasis.

Adverse Reactions. The most common adverse effects noted in clinical trials were burning, itching, and skin irritation, occurring in approximately 10 to 15 percent of patients. Side effects reported in 1 to 10 percent of patients included erythema (redness), dry skin, peeling, rash, and dermatitis. Worsening of psoriasis, including development of facial and scalp psoriatic lesions and dermatitis, was experienced at the same level. The dermatitis appears similar to that caused by topical corticosteroid therapy.

The label warns that the ointment should not be applied to the face. It can cause irritation of lesions and surrounding uninvolved areas, as well as reversible elevation of serum calcium. Patients should wash their hands thoroughly after applying it. The ointment is contraindicated in patients with demonstrated hypercalcemia or evidence of vitamin D toxicity.

Safety and effectiveness of calcipotriene in children have not been established. Geriatric patients may also be at greater risk for side effects. The results of an analysis of severity of skin-related adverse events showed a statistically significant difference for patients over 65 years (more severe) compared to those under 65.

Use in Therapy. Clinical trials have demonstrated improvement of moderate plaque psoriasis that usually begins after two weeks of therapy. The product's labeling stresses that this improvement continues with approximately 70 percent of patients showing at least marked improvement after eight weeks therapy. Ten percent show complete clearing. If treatment is stopped after 4 to 8 weeks, the disease gradually recurs at a rate consistent with its natural progression. Recurrence takes

place in 1 to 2 months, on average. Exacerbation has not been observed on discontinuing therapy. Lifetime treatment may be required for sustained control of the disease.

Calcipotriene can be used concomitantly with UV-light therapy, and the combined therapy is superior to calcipotriene alone. This is noted in the number of patients who obtain complete clearance with combination therapy.

It is difficult to ascertain the place of topical calcipotriene in the therapy of psoriasis. Some reports place it as a first-line drug, others do not.

Dosage and Availability. Calcipotriene should be applied to the affected skin, in a thin layer, twice daily and rubbed in gently and completely. Calcipotriene is available as Dovonex ointment, 0.005%. It is marketed in tubes containing 30, 60 and 100g.

Information useful in counseling patients is presented in Table 2.

Stavudine—Trade Name: Zerit

Stavudine (Zerit - ZER-et), also known as d4T, is an antiretroviral nucleoside analog that inhibits Human Immunodeficiency Virus (HIV) replication. It is the fourth drug in its class, joining zidovudine (Retrovir/AZT), didanosine (Videx/ddI), and zalcitabine (Hivid/ddC).

Stavudine is used in the treatment of adults with advanced HIV infections who are intolerant of approved therapies (e.g., Retrovir), those who have experienced significant clinical or immunologic deterioration while receiving these therapies, or those for whom such therapies are contraindicated.

Mechanism of Action. Stavudine enters HIV-infected cells where it is phosphorylated by viral enzymes into its monophosphate form. This, in turn, is further metabolized by intracellular enzymes to the diphosphate and triphosphate forms. The triphosphate salt is the active form that selectively inhibits HIV-reverse transcriptase. This enzyme is required by HIV to replicate. This mechanism is identical to that of zidovudine and the others.

Studies of patients taking stavudine and

Table 3
Patient Information for Zerit

Zerit is used to treat HIV infections and other conditions as determined by your doctor.

- Take Zerit with a full glass of water. If stomach upset occurs, you may take Zerit with food unless directed otherwise.

- It is important that you take this medicine as instructed. Do not skip a dose or stop taking the medicine without asking your doctor.

- Since Zerit helps control your condition, you should continue to take it, as long as your doctor tells you, even if you are feeling well.

- Zerit will not cure your infection and you may continue to acquire illnesses associated with HIV infections. Contact your doctor if there is any significant change in your health.

- If you miss a dose of Zerit, take it as soon as possible. But, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not take a double dose, unless your doctor has instructed you otherwise.

- Keep Zerit at room temperature, in its original, labeled container and out of the reach of children. In case of accidental ingestion or overdose, call your doctor or poison control center immediately. Do not keep or use outdated medication.

Every medicine is capable of producing side effects. Most patients experience few or no problems while taking Zerit. However, be sure to tell your doctor if the following occur: burning sensation and numbness of the fingers and/or toes, persistent headache, chills, fever, stomach or back pain, nausea, vomiting or diarrhea, or any other unusual, bothersome effects.

Adapted from the Pharmex PALS (Patient Advisory Leaflets). For more information, call 1-800-233-0585.

Side Effects

Side effects for Ambien are mostly extensions of its CNS activity. Very few are seen with short-term use. Side effects reported by the manufacturer at the 5 percent or higher level based on long-term studies are: headache, 19 percent (vs. 22 percent for placebo); drowsiness, 8 (vs. 5) percent; muscle aches, 6 (vs. 6) percent; nausea, 6 (vs. 6) percent; and dizziness, 5 (vs. 1) percent.

Dosage

The usual adult dose for Ambien is 10mg immediately before going to bed. This should be followed by adequate fluids to assure the tablet clears the esophagus. The initial dose for elderly or debilitated patients is 5mg.

The absorption of Ambien is delayed when the dose is taken with food, but the overall duration of action is not appreciably affected. Therefore, when a faster onset is desired, the manufacturer recommends that the dose not be taken with or immediately after a meal. Additional information useful in counseling patients is listed in Table 4.

CONTINUING EDUCATION QUIZ

Patient Counseling: New Drugs of 1994-95, Part 3: Aprotinin, Calcipotriene, and Stavudine

1. Aprotinin inhibits which of the following enzymes?
   a. Cyclo-oxygenase
   b. Monoamine oxidase
   c. Protease
   d. Reverse transcriptase

2. Aprotinin is indicated for use in:
   a. coronary artery bypass graft surgery.
   b. myocardial infarction secondary to atherosclerosis.
   c. prosthetic replacement of the mitral valve.
   d. transurethral resection.

3. The strength of Trasylol is expressed in terms of KIU which refers to:
   a. kallikrein.
   b. Kalories.
   c. kilograms.
   d. kalirium.

4. Calcipotriene is a derivative of:
   a. calcium.
   b. parathyroid.
   c. vitamin A.
   d. vitamin D.

5. The therapeutic effect of calcipotriene is due to:
   a. increasing cell proliferation.
   b. inhibiting cell proliferation.

6. Dovonex ointment is contraindicated in patients with demonstrated:
   a. hyperkalemia.
   b. hypercalcemia.
   c. hyperglycemia.
   d. hyperchloremia.

7. Patients using Dovonex ointment should be advised to do all of the following EXCEPT:
   a. apply a thin layer twice a day.
   b. rub the ointment in gently and completely.
   c. adequately cover the affected areas on your face.
   d. wash your hands after use.

8. Patients taking Zerit should be given all of the following advice EXCEPT:
a. take the capsules with a full glass of water.
b. in order to cure your infection, you must take the medication exactly as directed.
c. if you miss a dose, take it as soon as possible.
d. tell your doctor if you notice a burning sensation and numbness in your fingers and/or toes.

9. Stavudine inhibits which of the following enzymes?
a. Cyclo-oxygenase
b. Monoamine oxidase
c. Protease
d. Reverse transcriptase

10. The usual dose of Zerit is:
a. 15 mg once daily.
b. 20 mg q.i.d.
c. 30 mg t.i.d.
d. 40 mg b.i.d.

Cut out or Reproduce and Mail

CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Patient Counseling: New Drugs of 1994-95, Part 3: Aprotinin, Calcipotriene, and Stavudine

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
- Completed answer sheets may be returned on a monthly or less frequent basis for grading. **Quizzes not accompanied by payment will not be processed and will be discarded.**
- **This is a member service. Non-member tests will not be graded nor CPE credit hours given.**
- NCPhA will maintain a copy of your completed CPE tests and upon successful completion of each program, will issue a certificate for one (1) hour of North Carolina Board of Pharmacy approved CPE credit.
- If more than two (2) questions are answered incorrectly, the test is failed. You will be given one (1) opportunity to submit a second answer sheet.

Please circle correct answer

1. a b c d	4. a b c d	7. a b c d
2. a b c d	5. a b	8. a b c d
3. a b c d	6. a b c d	9. a b c d
		10. a b c d

Evaluation of material: Excellent Good Fair Poor

Name _____

Address _____

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Classified advertising rates are 25 cents a word for members with a minimum of $5.00 per insertion and for nonmembers, classified ads are 50 cents a word with a minimum charge of $10.00 per insertion. Ads are accepted for a single issue or specific time period only. The closing date for ad orders is the first of the month preceding the issue in which you are requesting insertion. Payment for ad orders will be billed. Names and addresses will be published unless an ad number for a blind ad is requested. In replying to blind ads, send to Ad ( ), c/o NCPhA, P.O. Box 151, Chapel Hill, NC 27514. Telephone 800-852-7343 or 919-967-2237.

Community Pharmacist Positions

PHARMACISTS' OPPORTUNITIES: Excellent environment in which to demonstrate professional skills. Positions available for the very best in many locations in the Carolinas. Excellent compensation and benefit programs including generous bonus and profit sharing. Send resume to Mark Chidester, Eckerd Drug Company, P.O. Box 31243, Charlotte, NC 28231, or call 704-371-3713.

PHARMACISTS WANTED: Kerr Drug Stores has positions available for Pharmacists in NC areas. Excellent benefits. Send resume to: Darlene Bergeron, Kerr Drug, 2522 S. Tricenter Blvd., Durham, NC 27713.

PHARMACISTS WANTED: Revco is actively seeking full-time pharmacists in various Piedmont and western NC locations. We offer a complete benefit package including medical, dental, life and disability insurance, profit sharing, Rx bonus and continuing education. Call Lori Setzer at 910-659-0433 or April Rogers at 910-485-1332.

Other Pharmacist Positions

PHARMACIST NEEDED: Position available in Moncure Health Center. No weekends or holidays. Please send resume to Personnel Director, Piedmont Health Services, Inc., P.O. Box 17179, Chapel Hill, NC 27516. EOE.

Relief Pharmacist Positions

PHARMACIST AVAILABLE: 19 yrs. experience, $22.50/hr. plus travel. Call L.C. Burks 919-929-5564.

PHARMACIST RELIEF: Four N.C. and one S.C. licensed pharmacists available for hourly, daily, or weekly work. All with computer experience in chain or independent pharmacies. Hourly rate of $22.50 with $200 daily minimum. No S.S, federal or state taxes, health insurance or company benefits to pay. No travel charge within 75 miles of company base. Regular scheduling available. Reply to Healthcon Services, Box 2, Southern Pines, N.C. 28388, or call 910-692-8800.

PHARMASTAT INC., PHARMACY RELIEF SERVICES: Pharmacists available statewide for your pharmacy needs. 1-800-252-STAT.

RELIEF PHARMACIST: Working experience in chain and independent. Willing to travel. Call 919-872-2672.

PHARMACIST AVAILABLE: Do you need a pharmacist for a few days a week on a regular schedule (1-3 days)? Radius of 50 or 60 miles from Siler City. Phone Henry Dunlap at 919-742-3215 after 6 pm or write to 1014 Parkwood Drive, Siler City, NC 27344. Details negotiable!

KROGER NEEDS RELIEF PHARMACISTS: Relief pharmacists needed for part-time and on-call work in the Piedmont. Great extra $$ for stay-at-home moms, retirees, and hospital pharmacists. Call Michelle Cook at 910-621-2203 to inquire.

Miscellaneous

AFGHANS: Beautiful UNC afghans now available for your graduate or your favorite Tar Heel fan. Displays all of UNC's historical sites. Also available in NC State, Clemson, Wake Forest, GA Tech, SC and the NC Lighthouse Edition. Now available for immediate shipment for 47.95 plus shipping/handling and tax. Call Don at 704-867-5343 or send your order to Medical Center Pharmacy, 515 Cox Road, Gastonia, NC 28054.

NEON SIGNS (CLOSE OUT): Special price on "DRIVE-THRU" and "WE DELIVER" in red neon, encased with cord, plug, and switch. Reg. $175, now $59 while they last. Call 1-800-321-4344.

The University of North Carolina School of Pharmacy is accepting applications through June 1st for the 1996 fall semester for the External Doctor of Pharmacy Program. For more information or applications, you may contact Pamela Joyner, Ed.D., M.S., Director of External Professional Programs, School of Pharmacy, CB# 7360, Beard Hall, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7360. Telephone: 919-962-0030; E-mail: pam_joyner@unc.edu

PHARMACY TECHNICIAN: Herbal and homeopathic medicine now available to independent pharmacies. High profit and down line potential. Contact: Doctor Rogers OTC, 27 Wild Cherry Dr., Arden, NC 28704 or 704-891-5799.

DOCTOR OF PHARMACY (PHARM.D.) OR COMBINED PHARM.D./M.B.A.: Would you like to obtain a Pharm.D. degree? If you are a B.S. Pharmacy graduate, contact the Director of Admissions, Campbell University School of Pharmacy, Buies Creek, NC 27506 or call 910-893-1200, Ext. 1690.

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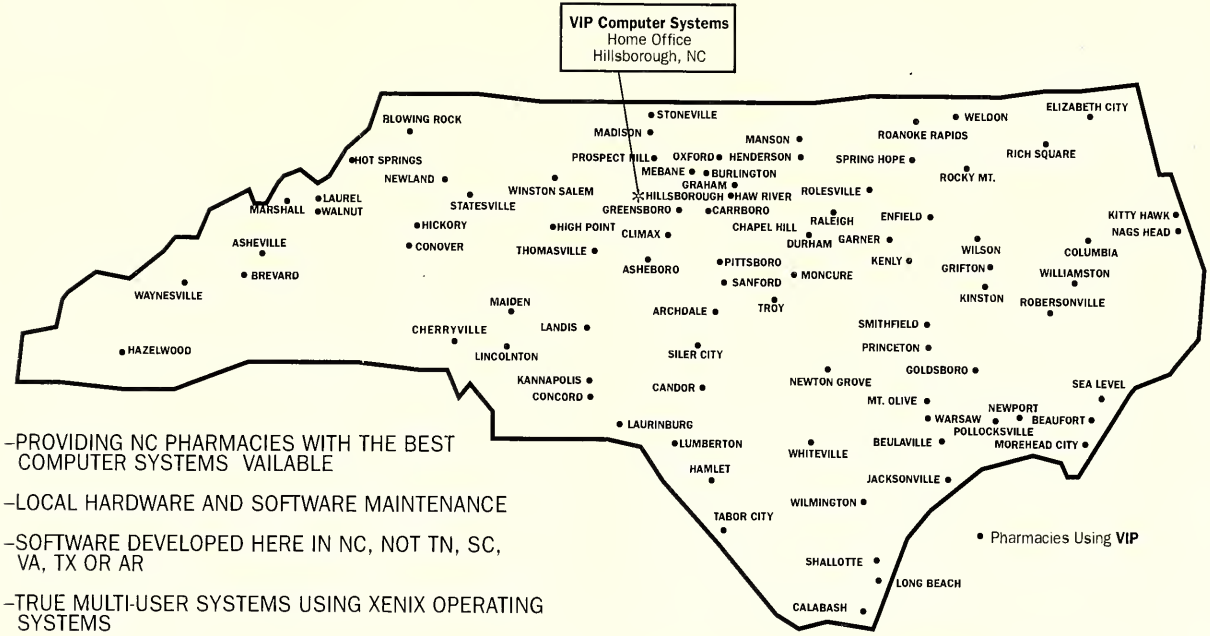

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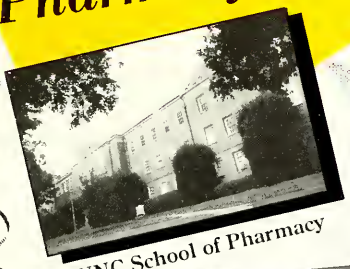
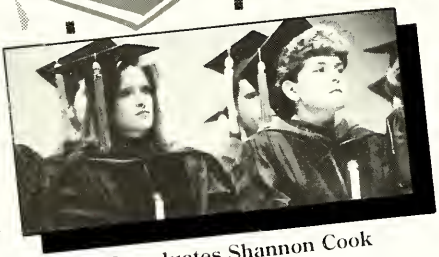


UNC School of Pharmacy

Tar Heel Celebration

Campbell University School of Pharmacy



CU graduates Shannon Cook and Huyla Coker

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Contents

Advertisers

On the cover: UNC photographs compliments of Dan Sears, UNC News Office. Campbell University photographs provided by Campbell University's Public Information Office.

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STAMER JOINS NCPHA STAFF

In early May, Jennifer Anne Stamer joined the Association staff as Associate Executive Director. She is a recent graduate of the UNC School of Pharmacy and currently resides in Cary, N.C. Jennifer was first introduced to NCPhA operations this past fall through a rotation experience. She then continued working with NCPhA on an ongoing pharmaceutical care grant from Glaxo Wellcome Inc. The completed product, *New Paradigms of Pharmaceutical Care*, was first made available at the 116th annual NCPhA convention in Greensboro, NC.

Jennifer's responsibilities will include overseeing continuing education, coordinating membership efforts, serving as a liaison with local and regional pharmacy associations, and serving as managing editor of professional publications. When asked what her initial goals entail she said, "I am very honored and excited to have this opportunity to serve the pharmacists of our state. Although my position encompasses many areas, my first task is to increase the involvement of pharmacy students and recent graduates with the Association. I believe their voices must be heard in order to unite and strengthen our profession and I am committed to making this a reality."

Jennifer A. Stamer

She also commented that she is pleased to be in a position that keeps her in close contact with the pharmacy schools. In her new role, Jennifer plans to focus on increasing NCPhA's interaction with UNC and Campbell University Pharmacy Schools, as well as other pharmacy associations.

Jennifer is an avid tennis player and enjoys almost all sports. She also loves children, listening to live music, and chinese food.

PHARMACY CALENDAR

September

7-8 **NCPhA/UNC School of Pharmacy, Pharmacy Practice Seminar**
Wilmington, NC

18-22 **American College of Apothecaries Annual Meeting**
Portland, OR

October

13-17 **NARD Annual Convention**
St. Louis, MO

20-26 **National Pharmacy Week**

November

13-17 **American Society of Consultant Pharmacists Annual Meeting**
Nashville, TN

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Changes In Community Pharmacy

by Lisa B. Ezzell
Winning Essay and Recipient of the Ralph P. Rogers Sr. Scholarship Award

Community pharmacies are facing many challenges, threats, and opportunities as a result of the massive changes underway in today's health care system. According to a study performed by CPJ/RPC, pharmacy is at a major crossroads. Pharmacological, technological, economical, political and social forces have created an opportunity for the pharmaceutical care concept and the forces behind its development. Employee pharmacists are being hit by increasing demands from their employers to boost production, while at the same time state and federal agencies are requiring them to spend more time with patients. The challenges seem numerous and formidable, but not insurmountable.

Pharmacists have gone from hugging the counting tray to hugging the computer. They need to hug the patient.

According to an article in *Drug Topics,* pharmacists used to concentrate on accuracy and precision in dispensing. Today, being a community pharmacist requires an active role, having more scripts than ever to fill, mandatory patient counseling, and a steady stream of computers, products, and new third-party programs that have to be learned on the job. Product-oriented pharmacists must rethink their sales and become patient-oriented pharmacists.

When asked about issues facing pharmacists, most pharmacists ranked therapeutics and disease states as the two most important categories for continuing education, and said that there needed to be upgrading in the areas of pharmacology and medical devices. Pharmacokinetics was ranked of less importance. Pharmacists agreed that access to patient-specific information, on-line access to drug information, and access to pharmaceutical specialists and up-to-date drug literature would greatly help their cause.

Independent community pharmacies must strengthen their managerial and operating systems to compete with chain outlets. They must offer a unique blend of products, and establish high, uniform standards of professional services. Today's retail pharmacist must be more in tune with marketplace realities and be more innovative in finding ways to compete.

Concerns also lie in other places. Automated dispensing systems are breaking into the profession fast. It is estimated that the technology is now in one-third of US hospitals and is beginning to show up even in some retail outlets. Analysts say these growing investments are proof of automated pharmacy's potential: significant saving in time and money, accuracy, 24-hour operation, and automatic inventory updates, increased security and patient compliance. Feelings are that companies do not need to pay somebody that much money to simply fill prescriptions when they can get technicians or technology can do it every bit as well. However, one of the best things that has happened in hospitals, as the result of this technology, is the ability to take the pharmacists out of the basement and put them out on the floors with the doctors. Industry leaders insist machines will finally let pharmacists do the jobs they are trained for. But while some pharmacies use the machines to free up time and enhance their employees' job descriptions, there are no guarantees, particularly as prices for the units drop to the levels of an average worker's salary. Some devices were invented explicitly to replace pharmacists during shortages. The Universal 2000 uses bar codes and a prescription scale to count up to 800 tablets in 10 seconds, a telephone system that lets patients place orders,

pharmacists to remind patients of refills, and pharmacists to deal with doctors, all via computer. Pharmacy 2000 is a "concept" that automates virtually the entire retail process, by not only dispensing the product, but also by scanning the prescription and creating an image of the drug for the final pharmacist approval. Retail pharmacists will have to deal not only with their own technology, but the fact that mail order pharmacy will soon have even greater advantages using facilities that are more productive than ever.

Many feel that other health care professionals fail to appreciate a pharmacist's knowledge. There is an inclination of health care professionals to view pharmacists in a commercial rather than professional context. Many people are concerned that the US is producing too many health care professionals for tomorrow's managed care environment. An oversupply of physicians may try to assume some traditional pharmacists functions. Furthermore, many nurses have already secured prescribing authority and are now moving aggressively to assume responsibility for patient medication counseling in some states.

Discussion with government, regulatory, and third-party sponsors must be undertaken to promote the benefits of pharmaceutical care. With the low reimbursement rates they have to deal with, community pharmacists may find it hard to believe that insurance companies are open to paying for new pharmacy services. So far, insurance companies are keeping their pharmacy networks fairly open, which means that any community pharmacy willing to live by the terms of the contract may join.

About 90% of the respondents said they are at least satisfied with the level of service they get from community pharmacists. On a positive note, 86% of respondents believed community pharmacists should play a larger role in managing the care of patients. Nearly half of the respondents felt it was a good idea to pay pharmacists to call patients and make sure they are using their medications correctly. And more than half said the same for meeting with patients to monitor the safety and effectiveness of their drug therapy. Thirty-nine percent said its a good idea to pay a pharmacist for preventing patients from taking the wrong drug or drug dosage.

With all these innovations, there is one pharmacist duty than cannot be duplicated: that of caring for the patient. Pharmacists have a unique body of knowledge that nobody else has. We must learn to cooperate in order to provide a higher level of service rather than compete on price alone. Pharmacists have gone from hugging the counting tray to hugging the computer. They need to hug the patient.

References available upon request.

NC BOARD OF PHARMACY ELECTION RESULTS

The North Carolina Board of Pharmacy announced the results of the mail ballots for two seats on the Board.

In District II, Jack G. Watts of Burlington will succeed himself for an additional six-year term, and in District I, Mike Overman of Asheville was successful in his first attemp to win a Board seat. Overman will replace Harold V. Day of Spruce Pine. Watts and Overman will be commissioned by the Governor in May of 1997 for their respective six-year terms.

OPPORTUNITY FOR THE PERFECT JOB: MANAGING A JOB OR CAREER CHANGE

By Therese Kirklys, R.Ph., President, Pharmstaff, Ltd.

Very few pharmacists can boast that they have practiced in the same setting throughout their careers. Like the average American, most pharmacists will not only change pharmacy practices, but may actually change careers.

Pharmacists today are finding themselves with an unprecedented number of career choices. New areas of practice are emerging and those already established are increasing the impact pharmacists have directly on patients.

The reason for a job search, or even a career change, need not be a negative one. New opportunities present themselves all the time. A sudden job loss is nothing more than an opportunity for something new and better.

Whatever the reason, and as different as your situation may be, all pharmacists looking for employment do so in the same job market, one where pharmacists are in demand and the choices are numerous. Though a job search can be a difficult and time-consuming experience, you will be most successful with a positive mental attitude.

Your job search is an opportunity to pursue a dream.

Assess Your Interests, Strengths, and Weaknesses

With the opportunities available in today's job market, you should be practicing in a setting that not only provides income, but is also professionally fulfilling. Alternatives to traditional practices are becoming a possibility as pharmacists continue to find their niche in the changing health care system.

Assess your experiences first. Are you satisfied with your career? Write down a list of factors that have made your career satisfying. In addition, identify what you feel would create a more fulfilling work environment. This second list should be a clear articulation of your expectations. It is this information that will be the basis from which to write your resume and frame your job search.

It is important that you actually write these lists down as a concrete reminder of your expectations. Use it as a reference to gauge a prospective job and prevent yourself from settling for a less than acceptable job.

This process may be most difficult for the pharmacist who is choosing a dramatically different type of practice setting, and even harder for one who is choosing a new career. Pharmacy students who will become first time practitioners should write a list of concrete expectations for their new careers. Measure each job offer against those expectations, and don't be afraid to ask questions.

The pressure to have a paycheck may be great. You could feel the need to accept the first interview and job offer. The urge to do so may be strong, but you may end up back in this same position six months from now. Ask yourself, "is this job offer truly an opportunity and does this opportunity fit with my wants and needs?"

If immediate income is necessary, investigate working for a temporary service while you're searching. A temporary service offers many advantages including flexible scheduling, which allows you to set interviews, access a variety of professional pharmacy settings, and gain the possibility of full time employment through one of the firm's clients.

The Job Search

All pharmacists should have a current resume whether or not they are looking for a job. The process of creating a resume is not just a one day project, but one that is on-going. Keeping a resume updated makes the process much easier.

With all of possibilities, the question inevitability comes up; where should I start? There are numerous publications available at your local bookstore and library that give you tem-

plates to follow for a resume's structure, but it is the onset of the resume that is most important.

Pharmacists who have not had a current resume in decades tend to downplay their accomplishments by being over-broad in their job descriptions. Just saying you were a "pharmacy owner" does not do service to the actual experience you've had. Being a pharmacy owner entails knowledge of management procedures, merchandising, inventory control, public relations, advertising, accounting, business, and pharmacy law, as well as the practice of pharmacy. No accomplishment is insignificant.

Make sure to include professional accomplishments. Having attended special seminars show interest or ability in that subject; awards from pharmacy associations show your commitment to the profession; and a record of holding volunteer offices shows your motivation to give your time for others and be part of a team.

Have you participated in civic groups? Did you teach diabetes classes at the local hospital? Did you do brown bag medication reviews at senior centers? Did you do presentations to school children about the dangers of misusing drugs? These activities and more should be included on your resume. By updating it on a regular basis you lessen the risk of forgetting something.

Recent graduates have the opposite problem. A common mistake of new pharmacists is to over emphasize the importance of the accomplishments of their college careers. It is helpful for a prospective employer to know the kind of clinical rotations and major class projects completed by the student, as well as any awards and honors received. However, these are secondary to those work experiences that have acquainted the student with "the real world."

Did you work as a technician in a pharmacy during college? Do you have practical experience? Knowledge of how to use a pharmacy computer system, interact with and counsel patients, and deal with hurried, hard to reach doctors are just some of the experiences that employers will value in a new, young pharmacist.

Use your self-assessment and target this information on your resume. Keep the focus of the resume positive by highlighting and focusing on your experience, work ethic, professional skills, and dependability. Those things you found most fulfilling in your self assessment will generally be those activities in which you have had the most success.

Make sure your resume is easy to read. Use concise, unambiguous sentences and avoid over-writing or flowery prose. Keep the overall length of your resume short. Depending on experience, one or two pages is ideal.

Pharmacists who have decided to make a career change should stress the skills that are transferable to support their new career objectives. Begin accomplishment statements with action verbs (i.e. achieved, broadened, coordinated, or evaluated). Neatness counts because a poorly-structured, badly-typed resume is a reflection on an applicant.

Clearly list specific accomplishments such as cutting your department's overhead, the number of consecutive years increasing net profits, the implementation of quality assurance procedures, and providing patient focused services.

Don't list your salary history or reasons for leaving a previous job. Neither should you include personal references on your resume. Potential employers are interested in references only after they are seriously considering hiring an applicant. When you reach that point, you may be asked to furnish a list of references.

Most importantly, when preparing a resume don't stretch the truth. Misinformation or untruthful statements may come back to haunt you.

Though there are opportunities to be had through the classified sections of professional journals, large circulation metropolitan newspapers, and agencies; most successful searches come from networking.

Your greatest opportunities for positions will be your colleagues. This is not surprising because your friends know you well. By networking on a regular basis through local, state, and national pharmacy associations you should have a ready supply of fellow professionals willing to recommend you for a position.

A job search is not an effortless process, but much less difficult if pursued from the point of

view that it is an opportunity to chase a dream. By identifying those areas in your life that are unfulfilled, you may even give yourself the permission to look into other professions. Maybe you would be happier in a health-related field, or you may find a creative talent that has been suppressed and can now be pursued.

The world is your oyster, so pry it open and find that pearl.

PUBLIC & PROFESSIONAL RELATIONS COMMITTEE SEEKS FEEDBACK

The NCPhA Public and Professional Relations Committee is looking for success stories, and examples of unique or innovative pharmacy practices in all areas of patient care (including academic, industry, retail, consultant and hospital). These examples will be used for Public Service Announcements and to distribute to other health care professionals.

Please submit your examples (written or typed) to NCPhA, P.O. Box 151, Chapel Hill, NC 27514-0151.

Thank you for your support.

1996 National Health Resource Guide
July—December

JULY

National Eye Exam Month
July-August
Contact: Jackie Bitowt, Media Relations Manager
Prevent Blindness America
500 East Remington Road
Schaumburg, IL 60173
(708) 843-2020
Promotional materials available.

AUGUST

National Rehabilitation Week
August 16-25
Contact: Bea Mott, Administrative Assistant
Allied Services
PO Box 1103
Scranton, PA 18501-1103
(717) 348-1498
Promotional materials available.

SEPTEMBER

Baby Safety Awareness Month
Contact: Debbie Albert, Public Relations Director
Juvenile Product Manufacturers Association
236 Route 38 West, Suite 100
Moorestown, NJ 08057
(609) 231-8500
Promotional materials in English and Spanish available for a fee.

National Cholesterol Education Month
Contact: Information Specialist
National Heart Lung and Blood Institute
PO Box 30105
Bethesda, MD 20824-0105
(301) 251-1222
Information and promotional kit available.

National Pediculosis Prevention Month
Contact: Linda Menditto, Adm. Director
National Pediculosis Association
PO Box 149
Newton, MA 02161
(617) 449-6487 ext. 108
Resource catalog available.

National Sickle Cell Month
Contact: Ralph Sutton, Deputy Director
Sickle Cell Disease Assn. of America, Inc.
200 Corporate Pointe, Suite 495
Culver City, CA 90230-7633
(800) 421-8453
Educational materials available.

Muscular Dystrophy Labor Day Telethon
September 1-2
Contact: Gene Greiner, Director of Field Services
Muscular Dystrophy Association
3300 East Sunrise Drive
Tuscon, AZ 85718-3208
(602) 529-2000
Promotional materials available.

OCTOBER

Breast Cancer Awareness Month
Contact: Joanne Schellenbach, National Director of Media Relations
American Cancer Society
1180 Avenue of the Americas
New York, NY 10036
(212) 382-2169
Media kit and brochures available through local and state offices.

Campaign for Healthier Babies Month
Contact: Karen Wertheimer, Associate Director of Telemarketing
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
Promotional materials available.

American Lung Association
1740 Broadway
New York, NY 10019-4374
(212) 315-8700
(800) LUNG USA (586-4872
Contact local branch office for information.

Crime Prevention Month
Contact: Jackie Acker, Media & Marketing Coordinator
National Crime Prevention Council
1700 K Street, NW, 2nd Floor
Washington, DC 20006-3817
(202) 466-6272
Promotional materials available.

Healthy Lung Month (New)
Contact: Ruth Kasloff, Communications Associate
American Lung Association
1740 Broadway
New York, NY 10019-4374
(212) 315-8700
(800) LUNG USA (586-4872
Promotional materials available.

Lupus Awareness Month
Contact: Duane Peters, Director of Communications & Development
Lupus Foundation of America
4 Research Place, Suite 180
Rockville, MD 20850-3226
(301) 670-9292
(800) 558-0121
Press kit available.

National Family Sexuality Education Month
Contact: Michael McGee, Dir. of Education
Planned Parenthood Federation of America
810 Seventh Avenue
New York, NY 10019
(212) 541-7800
Information and promotional materials available.

National Liver Awareness Month
Contact: Ari Maravel, Public Relations Director
American Liver Foundation
1425 Pompton Avenue
Cedar Grove, NJ 07009
(201) 256-2550 ext. 228
Promotional materials available.

National Spinal Health Month
Contact: Member Information Center
American Chiropractic Association
1701 Clarendon Boulevard
Arlington, VA 22209
(703) 276-8800
(800) 986-INFO (4636)
Promotional materials available.

Spina Bifida Month
Contact: Janette Atkinson, Information & Referral Specialist
Spina Bifida Association of America
4590 MacArthur Boulevard, NW, Suite 250
Washington, DC 20007-4220
(202) 944-3285 (800) 621-3141
Promotional materials available.

Sudden Infant Death Syndrome Awareness Month
Contact: Phipps Cohe, Director of National Public Affairs
SIDS Alliance
1314 Bedford Avenue, Suite 210
Baltimore, MD 21208
(410) 653-8226 (800) 221-SIDS
Promotional materials available.

"Talk About Prescriptions" Month
Contact: Colleen Dill, Office Manager
National Council on Patient Information and Education
666 11th Street, NW, Suite 810
Washington, DC 20001
(202) 347-6711
Brochure available with a self-addressed stamped envelope.

Alzheimer's Association Memory Walk (New)
October 5-6
Contact: Briggen Wrinkle, Associate Director of Public Relations
Alzheimer's Association
919 North Michigan Avenue, Suite 1000
Chicago, IL 60611
(312) 335-5784
Promotional materials available.

American Heart Walk (New)
October 5-6
Contact: Tim Elsner, Manager of Public Relations
American Heart Association
7272 Greenville Avenue
Dallas, TX 73231-4596
(214) 373-6300
Promotional materials available.

Mental Illness Awareness Week
October 6-12
Contact: Melissa Wajnart, Communications Department
National Alliance for the Mentally Ill
200 North Glebe Road, Suite 1015
Arlington, VA 22203
(703) 516-7961
Promotional materials available.

National Mammography Day
October 19
(This event is affiliated with Breast Cancer Awareness Month)
Contact: Karen Miller, Project Manager
Zeneca Inc.
1800 Concord Pike
Wilmington, DE 19897
(302) 886-7713
Information and promotional materials available.

National Consumers Week
October 20-26
Contact: Director's Office
US Office of Consumer Affairs
750 17th Street, NW, Suite 650
Washington, DC 20036
(202) 395-7900
Promotional materials available.

National Hepatitis Awareness Week (New)
October 20-26
Contact: Ari Maravel, Public Relations Director
American Liver Foundation
1425 Pompton Avenue
Cedar Grove, NJ 07009
(201) 256-2550 ext. 228
Promotional materials available.

NOVEMBER

Child Safety and Protection Month
Contact: Victoria Duran, Health & Welfare Program Manager
National PTA
330 North Wabash Avenue, Suite 2100
Chicago, IL 60611
(312) 670-6782
Promotional materials available.

National Alzheimer's Disease Month
Contact: Niles Frantz, Associate Director of Public Relations
Alzheimer's Association
919 North Michigan Avenue, Suite 1000
Chicago, IL 60611
(312) 335-8700
Information and promotional materials available.

National Diabetes Month
Contact: Gwen Twillman, Manager of Community Programs
American Diabetes Association
1660 Duke Street
Alexandria, VA 22314
(703) 549-1500 ext. 2014
Information and promotional materials available.

National Epilepsy Month
Contact: Peter Van Haverbeke, Director of Public Relations
Epilepsy Foundation of America
4351 Garden City Drive
Landover, MD 20785
(301) 459-3700
Promotional materials available.

National Home Care Month
Contact: Margo Gillman, Department of Public Relations
National Association for Home Care
519 C Street, NE
Washington, DC 20002
(202) 547-7424
Promotional materials available.

National Hospice Month
Contact: Suzanne Kieffer, Assistant Director of Public Relations
Hospice Association of America
519 C Street, NE
Washington, DC 20002
(202) 546-4759
Promotional materials available.

"Tie One On for Safety" Nationwide Red Ribbon Campaign
November 1- January 1
Contact: Programs Department
Mothers Against Drunk Driving (MADD)
511 East John Carpenter Freeway, Suite 700
Irving, TX 75062
(214) 744-6233
Promotional materials available.

American Education Week
November 17-23
Contact: Elvira Crocker, Communication Department
National Education Association (NEA)
1201 16th Street, NW
Washington, DC 20036
(202) 822-7200
Promotional materials available.

National Children's Book Week
November 18-24
Contact: Maria Juarez, Vice President of Marketing & Publications
The Children's Book Council, Inc.
568 Broadway, Suite 404
New York, NY 10012
(212) 966-1990
Promotional materials available.

Great American Smoke Out
November 21
Contact: Paula Falushy, Staff Assistant of Public Relations
American Cancer Society
1599 Clifton Road, NE
Atlanta, GA 30329
(404) 329-5711
Media kit and brochures available.

DECEMBER

National Drunk and Drugged Driving (3-D) Prevention Month
Contact: Chiqita Warren, Highway Safety Specialist
National Highway Traffic Safety Administration
400 7th Street, SW, Room 5130
Washington, DC 20590
(202) 366-2728
Promotional materials available.

Safe Toys and Gifts Month
Contact: Jackie Bitowt, Media Relations Manager
Prevent Blindness America
500 East Remington Road
Schaumburg, IL 60173
(708) 843-2020
Information and promotional materials available.

World AIDS Day
December 1
Contact: Jessica Muro, Project Officer
American Association for World Health
1129 20th Street, NW, Suite 400
Washington, DC 20036
(202) 466-5883
Promotional materials available.

LEARNING, FLEXIBILITY & TEAMWORK: THE RX FOR SUCCESS

Commencement Address by Jack Jackson, Senior Vice President and President North America Pharma Market Region, Pharmacia & Upjohn at Campbell University on May 11, 1996

It's truly an honor to be your speaker today and to be a part of this very special occasion. I am especially proud to stand before you on this particular day of great honor. A mother's greatest source of pride is most often her children. As you prepare for your graduation, you can rest assured that you are giving your mothers the greatest gift you can give—the pride she feels from your accomplishments, and the knowledge that those strong values, wisdom, and maybe even tears, that she has imparted over the years were all worthwhile! Those values will remain with you throughout your professional and personal lives. To all the mothers in the audience, I, and your children, your graduates, salute you!

...Campbell University has instilled in you a love of continuous learning...a thirst to acquire new knowledge...an openness to new growth and new experiences.

Unlike yourselves, I didn't get a degree in pharmacy, though I can say proudly that many of the people who most influenced my career, and who I greatly respect and admire, have come from a pharmacy background. And I'm not the only one who holds pharmacists in such high esteem. Year after year, surveys show pharmacists to be among the most respected and trusted professionals.

This beautiful campus reminds me of a story told of the late Supreme Court Justice Oliver Wendell Holmes. It seems that Justice Holmes was on his way to give a lecture at a university of some renown when he became lost and mistook a beautifully landscaped insane asylum for the school. Realizing his mistake, he commented to the security guard "after all, there's probably no great deal of difference between the two institutions. Replied the guard: "Oh yes there is. In this place, you must show some improvement before you can get out."

Of course such a story, could not be possible in today's world because, thankfully, we no longer have insane asylums; and graduates like you could not hope to earn your degrees without having demonstrated a real knowledge of the complexities of your field. As graduates from Campbell University School of Pharmacy, you have acquired an enormous storehouse of knowledge critical to your field in such areas as pharmacology, pharmacokinetics and therapeutics. And the clerkships which you have all completed have no doubt provided you with much useful experience.

Perhaps most importantly, Campbell University has instilled in you a love of continuous learning...a thirst to acquire new knowledge...an openness to new growth and new experiences. These are the qualities that will be critical to your continued success in the health care field as we march forward in a time of continual change and challenge.

The theme of my remarks today revolve around change and challenge and our need to be flexible, adaptable and teachable throughout our lives. Yet another challenge, for those of us in the health care field, is the need to forge stronger partnerships with members of the health care team, including pharmacists, doctors, nurses, administrators and those of us in the pharmaceutical industry. Only by working together can we optimize the treatment of care, while ensuring the best possible outcomes with the highest patient satisfaction.

One of the reasons I got into the pharmaceutical business 26 years ago was knowing that the products that I would be selling could have a positive, sometimes lifesaving effect on

people. But I didn't start off with that career in mind. As a matter of fact, I was working on a pre-med degree at Clemson. A second semester of organic chemistry, however, convinced me that my future career was to be found elsewhere. Where exactly, I had no idea. After graduation, I interviewed with several paper and chemical companies for positions such as a chemist.

I happen to believe that destiny plays a part in your career. When I was growing up in the little town of Edgefield, South Carolina, there was a guy four years older than me who I greatly admired. His name was Bob Padgett. He was an outstanding high school athlete and student. Little did I know that our paths would cross more than once. Bob graduated from high school and went to the University of South Carolina. It wasn't long before he earned his pharmacy degree near the top of his class. Meanwhile, I followed in his footsteps at my high school, playing football and being somewhat serious about school work. Our paths crossed while I was attending Clemson and playing football. Bob was working for Upjohn at the time and would call on our athletic department. I was impressed with his knowledge gained from his degree in pharmacy and working with Upjohn. Later,when a position opened at Upjohn I jumped at the chance, based on my experience with Bob. Little did I know that it would turn out to be the biggest career decision in my life. Bob was transferred to California and we had very little contact with each other until years later when Bob and I were in charge of the U.S. sales force for Upjohn. I had the Western half, and he was responsible for the Eastern half. Today, Bob oversees our company's public affairs activities within our organization and has an office two doors down from mine.

Destiny, or luck, or timing can have a great influence on your future. Early on in my career with Upjohn, I was asked to write down my goals and pull them out from time to time. When I reached the end of my initial list, I had become the district manager of our Atlanta office. So I sat down and wrote up another list,which was exhausted when I became a sales director in Orlando. So it went early in my career, moving nine times in 13 years. In each case, I asked myself: "Will I be happy doing this until I retire?" The answer, of course, motivated me to accept another change and more challenge.

Opportunities for change and challenge, however, don't always require a moving van or a major career change. It often requires us to readjust our thinking and our way of doing things. It may require that we do more, or that we do things better, or differently than in the past.

This isn't news to anyone in the health care industry, including pharmacists,doctors, hospitals, pharmaceutical companies. Indeed, change and challenge have driven health care for the past five years or more. And it's not going to change anytime soon. But success often comes to those who first realize what needs to be done and then they go about doing it.

That's why our company has undergone tremendous change, just within the past half year. Our future depends on making a major move to compete in the pharmaceutical industry. Thus, in November, my former company, Upjohn, merged with Pharmacia, a company based in Sweden. All of a sudden we went from a 3.6 billion dollar company with 18,000 employees to the ninth largest pharmaceutical company in the world, with more than 7 billion dollars in sales and 30,000 employees. And we aim even higher. Pharmacia & Upjohn is now focused on becoming one of the top five pharmaceutical companies in the world.

But saying so doesn't make it so. We too will have to continually adjust to constant change and challenge. Health care is much different today than five years ago. Traditionally, a patient went to a doctor who prescribed a treatment that took the patient to the pharmacist who filled the prescription, which the patient followed "till better...or dead." Now the patient may make the decisions, the physician gives the patient access to pharmacists. And sometimes the employer or other payor makes the treatment decision.

Another big trend in health care is consolidation. Individual decisions are being supplanted by group decisions. You have restricted formularies and other forms of consolidated buying power. From a marketing

standpoint, this actually makes our job easier. We're selling to fewer customers. However, making the sale requires that you have cost effective information. You need to know how much it costs to monitor a patient, and how quickly they can go back to work.

The role of pharmacists has also been effected by the sea of change in health care. Retail pharmacies, in particular, have experienced a great deal of change caused by the expansion of large chain drug stores and mail order pharmacies. Managed care has also affected how prescriptions are filled and how much they will cost. Yet managed care may also expand the pharmacists' role in counseling patients.

Someone once said of change: if you are fearful, change is threatening because it means things may get worse; for the hopeful, change is encouraging because things may get better; and to the confident, change is inspiring because the challenge exists to make things better.

Certainly a need exists for an expanded role by pharmacists in counseling patients. According to a paper published last year in *Archives of Internal Medicine*, improper drug use costs 77.6 billion dollars annually. The Pharmaceutical Council estimates that patients not taking drugs as directed causes 125,000 deaths per year in the United States. In addition, 10 percent of all hospital admissions, 25 percent of all hospital admissions of the elderly and 23 percent of all nursing home admissions are caused by patients incorrectly taking their medications.

As pharmacists you will be in the ideal position to counsel patients, because of your knowledge and expertise of the products and your proximity to the patient. There is no question that your role in the health care arena will grow in importance in the coming years.

One of the reasons for this trend will be the continual push to improve the delivery of health care. Competitive pressures are forcing everyone: HMOs, hospitals, physician practices, pharmacies and pharmaceutical companies to deliver goods and services in the most cost effective manner. Because the goods and services of health care come from many sources, there will be increasing need for us to work together to realize efficiencies while providing optimal care.

Already we are seeing the first signs of this cooperation among the providers of health care products and services. For example, computer technology is helping to promote cooperation and information sharing among doctors and pharmacists. And perhaps the most ambitious effort to improve health care delivery through cooperation and teamwork is being offered through disease management programs.

Last year, our company launched a disease management enterprise called Greenstone Healthcare Solutions. The company seeks to improve the delivery of patient care through an integrated approach that involves all health care professionals. By identifying the best practices for a particular medical condition—throughout the natural course of that condition—the best outcomes can be ensured both clinically, economically and humanistically.

That all sounds good I know, but the real test comes in getting everyone's support and involvement. Whether it be physician care or pharmaceutical care, the goal is to be more patient focused, more patient oriented. That puts the pharmacist in a particularly good position, because historically, this patient oriented approach has been cultivated and nurtured by schools such as Campbell University.

Disease management is but the latest change...the latest challenge. You can bet there will be more. That is reality in the health care industry today. Yet, the value of knowing this as you embark upon your careers depends largely on your attitude.

Someone once said of change: if you are fearful, change is threatening because it means things may get worse; for the hopeful, change is encouraging because things may get better; and to the confident, change is inspiring because the challenge exists to make things better. I'm certain that you as graduates will

be entering the workforce knowing that you can make a difference in how pharmaceutical care is delivered makes a difference in the lives of your patients.

What gives me such confidence? I've seen your curriculum and have spoken with some of your faculty, including my good friend Ron Maddox. I have no doubt in my mind that Campbell University has prepared you well to confidently meet any challenge that you face. My faith in your future is also based on my associations and friendships with many pharmacy graduates over the years. Many of my most respected pharmacist friends and colleagues are now working with me in other areas, including law, marketing, research and development, pharmacy affairs and, as I mentioned earlier with Bob Padgett, public affairs.

Your degree as doctorate of pharmacy creates a limitless horizon for your future. While some of you no doubt, will at some time go on to other career paths, many of you will find the practice of pharmacy your calling. And it remains a most respected and admired calling. The role of pharmacists will expand in the coming years. And with that will come even greater appreciation by both the health care community and the patients.

"Destiny is not a matter of chance, it is a matter of choice; it is not a thing to be waited for, it is a thing to be achieved."

Your success, whichever path you choose, will rest on your ability to address change and challenge with an open mind and a willingness to adapt and be flexible. Our future together in the health care field will require continual communication and friendship. That's why I'm pleased to have the opportunity to be here today. To reacquaint with old friends and to meet some new ones.

In helping celebrate this milestone in the lives of today's graduates, I'd like to read a passage from Robert Hastings, who so eloquently provides perspective to life's daily strivings and ambitions.

The Station

by Robert J. Hastings

Tucked away in our subconscious is an idyllic vision. We see ourselves on a long trip that spans the continent. We are traveling by train. Out the windows we drink in the passing scene of cars on nearby highways, of children waving at a crossing, of cattle grazing on a distant hillside, of smoke pouring from a power plant, of row upon row of corn and wheat, of flatlands and valleys, of mountains and rolling hillsides, of city skylines and village halls.

But uppermost in our minds is the final destination. On a certain day at a certain hour we will pull into the station. Bands will be playing and flags waving. Once we get there, so many wonderful dreams will come true and the pieces of our lives will fit together like a completed jigsaw puzzle. How restlessly we pace the aisles, damning the minutes for loitering waiting, waiting, waiting for the station.

"When we reach the station, that will be it!" we cry. "When I'm 18." "When I buy a new 450 SL Mercedes Benz!" "When I put the last kid through college." "When I have paid off the mortgage!" "When I get a promotion." "When I reach the age of retirement, I shall live happily ever after!"

Sooner or later we must realize there is no station, no one place to arrive once and for all. The true joy of life is the trip. The station is only a dream. It constantly out distances us.

"Relish the moment" is a good motto, especially when coupled with Psalm 118:24: "This is the day which the Lord hath made; we will rejoice and be glad in it." It isn't the burdens of today that drive men mad. It is the regrets over yesterday and the fear of tomorrow. Regret and fear are twin thieves who rob us of today.

So, stop pacing the aisles and counting the miles. Instead, climb more mountains, eat more ice cream, go barefoot more often, swim more rivers, watch more sunsets, laugh more, cry less. Life must be lived as we go along. The station will come soon enough.

Finally, I'd like to leave you with some words from the famed orator, William Jennings Bryan, who said: "Destiny is not a matter of chance, it is a matter of choice; it is not a thing to be waited for, it is a thing to be achieved."

I offer you my best wishes and good luck on achieving your destinies...

Class of 1996

Michael Adams, *Grifton*
Charles Allen, *Angier*
Wanda A. Askew, *Buies Creek*
Craig Barlow, *Richmond, VA*
Jeanette Bechert, *Kernersville*
Sherry Blevina, *Millers Creek*
Rock Boney, *Wallace*
Wiley Brantley, *Zebulon*
Edwin Brewer, *Coats*
Karyn Britt, *Emerald*
Sheila Britt, *Charlotte*
Susan D. Brown, *White Oak*
Annette G. Bullard, *Charlotte*
J. David Burrell, *Rolesville*
Mark Chaparro, *Stanley*
Michael Chicella, *Cary*
Laura B. Church, *Charlotte*
Huyla Coker, *Edenton*
Shannon Cook, *Bristol, TN*
Tracy Crews, *Rural Hall*
Angela M. Elliott, *Coars*
Johnna Enloe, *Westfield*
Greg Fox, *Asheboro*
Ashley R. Furman, *Greenville*
Helen Giannopoulos, *Winston-Salem*
Elizabeth Ann G. Taylor, *Laurel Hill*
Evan Gliptis, *Durham*
Dina Hall, *Autryville*
Jennifer P. Herring, *Asheboro*
Bonnie Hooten, *Southern Pines*
Laura Howard, *Kernersville*
Vincent Howard, *Kernersville*
Erin Hufman, *Apex*
Denise Huggins, *Hope Mills*
Dawn M. Javino, *Greensboro*
Joni Johnson, *Winston-Salem*
Michael Jones, *New Castle, VA*
Sagoo A. Kapur, *Garner*
Taffy Klaassen, *Belhaven*
Stephanie Larsen, *Buies Creek*
Douglas Lester, *Gilbert, WV*
Jeffery Lobo, *Huntington, WV*
Craig Marshall, *Richmond, VA*
Laura McArthur, *Red Springs*
Peggy McPhail, *Lillington*
Sandip Mehta, *Fayetteville*
Jeffrey Mercer, *Hickory*
Angela Milton, *Oxford*
Amy Moore, *Reidsville*
Julie P. Moose, *China Grove*
Angela C. Mumford, *Benson*
Jennifer S. Obenrader, *Fuquay-Varina*
Walton P. O'Neal III, *Belhaven*
Allison J. Parrish, *Smithfield*
William Phelps, *Buies Creek*
Bob Phillips, *Greensboro*
Danny Seavers, *Charlotte*
Emily Severt, *Gastonia*
J. Green Shepherd, *N. Wilkesboro*
Cathleen Sherritt, *Fort Bragg*
Denise M. Staley, *Pittsboro*
Monica N. Stonefield, *Raleigh*
Tammy Stowe, *Danville, VA*
Jennifer M. Sutton, *Reidsville*
Barbara H. Swartout, *Parkton*
Kristen Thomas, *Roanoke, VA*
Kenrick Thompson, *Biscoe*
June Tuning, *Durham*
Dana Warren, *Salemburg*
Joyce White, *Raleigh*

Award Recipients

American Pharmaceutical Association Academy of Students of Pharmacy Professionalism Award
Daniel B. Seavers

American Society of Health-System Pharmacists Student Leadership Award
Edwin B. Brewer

Facts and Comparisons Award For Excellence in Clinical Communication
Rock A. Boney

Van B. and Allene J. Hix Christian Citizenship Award
Wiley B. Brantley

Lemmon Company Outstanding Student Award
Gregory D. Fox

Eli Lilly and Company Pharmacy Achievement Ward
Kristen E. Thomas

Mylan Pharmaceuticals Inc. Excellence in Pharmacy Award
Helen T. Giannopoulos

Perrigo Award for Excellence in Nonprescription Medication Studies
Johnna M. Enloe

Pfizer Pharmaceuticals Inc. Community Pharmacy Internship Award
Walton P. O'Neal III

Pharmaceutical Sciences Research Award
Michael L. Adams

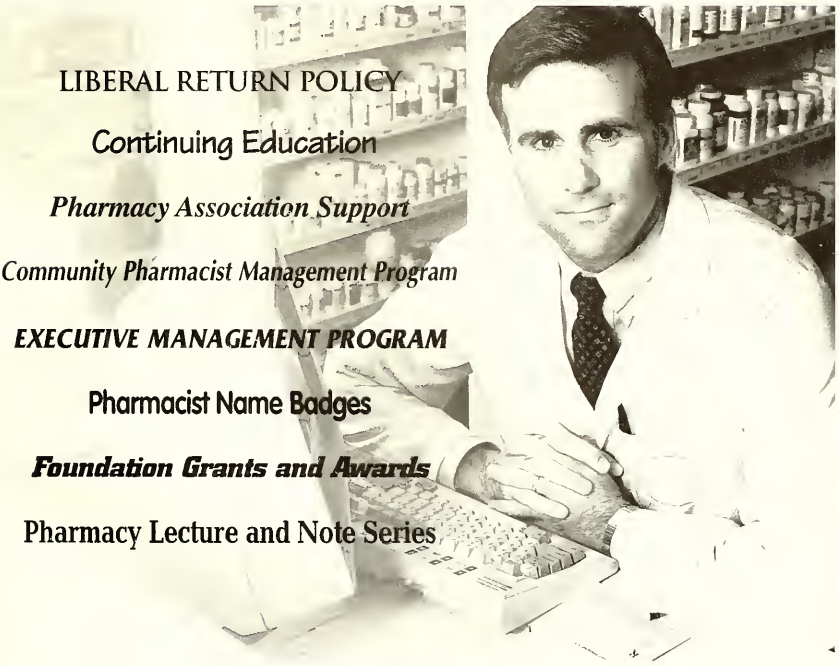
Roche Laboratories Pharmacy Communications Award
Stephanie D. Larsen

SmithKline Beecham Pharmaceuticals Patient Care Award
Karyn T. Britt

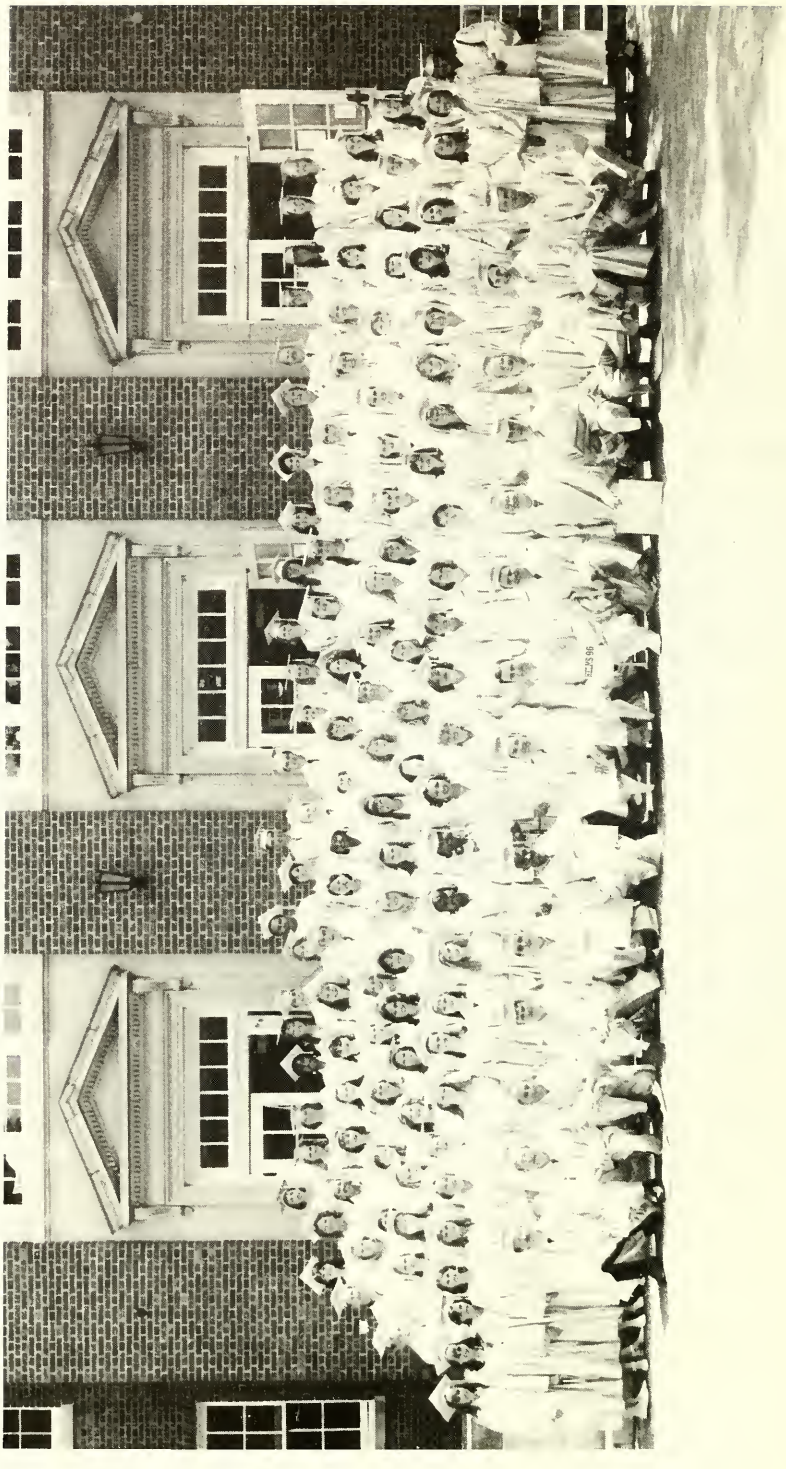
Gerald M. Stahl Pharmacy Practice Faculty Award
J. Greene Shepherd

What pharmacists may think about SmithKline Beecham Pharmaceuticals

What pharmacists ought to know...



SB
SmithKline Beecham
Pharmaceuticals



UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL COMMENCEMENT ADDRESS

by George Abercrombie, Vice President and General Manager
Business Operations, Glaxo Wellcome Inc.
Sunday, May 12, 1996

I think many of us feel a special blending of **time, place** and **occasion** this Sunday.

The Time–It is May, it is spring on one of the most beautiful college campuses in the world. It is a time of hope, a time of re-birth, a time of new beginnings. It is spring!

The Place–A chapel of learning on the hill. The abundant beauty of this campus blends with a very special atmosphere for creative thinking and creative learning.

The Occasion–It is graduation day. We are here to honor the graduating class. The UNC School of Pharmacy class of 1996. But it also is noted that this occasion blends with a very special day, Mother's Day 1996. I would like to suggest, if the Mothers don't mind, and I'll bet they won't, that we extend their special day to all family members of this graduating class. For it is the members of your families—mothers, fathers, sisters, brothers, grandparents—who provided each of you with encouragement and support during your challenging and rewarding time at Carolina. I now invite the graduating class to express their special feelings and thankfulness to their families by turning and applauding.

Our profession has in front of it a bright and rewarding opportunity—the opportunity to increasingly impact health care in this country and to dramatically improve and enhance the care and well-being of our patients.

It is a very special day.

I am filled with many personally reflective emotions. I think back to May of 1978, when I sat where you are sitting, next to my Mom, and like you today, I was graduating from this grand institution. My personal reflections include many things. The exams, the study groups, the hard work (there was certainly enough of that to go around), the mixed feelings of fatigue and excitement and, of course, the fun of the entire process. In May of 1978, I remember the emotions as if it were yesterday, the thrill that I had made it through five very challenging years, after all the examinations in physical chemistry, biochemistry, and the real killer—organic chemistry. All of the examinations and struggles in the pharmacy labs, the shedding of blood, sweat, and tears and, by the way, I distinctly remember one hot day in September when my sweat dripped into my perfectly prepared powder and I had to start over. Hope that never happened to you! Like you, I had five challenging yet fun-filled years at Carolina, and when you have those years here, or even some of those years here, this special place captures a position in your heart forever.

Most importantly, as I remember my graduation day from 1978, I encourage you to take time today, now, this afternoon to appreciate the moment. The moment that will never come again in the same way, in the same form, as this special day.

Since Bill Campbell offered me the honor of speaking here today, I have spent the past five months thinking about the central message or theme to leave with you today. One or two simple thoughts you can carry with you over the summer, through the state board exams and into your first day at work or wherever your career leads.

My message to you on this special graduation day is one of great optimism for each of you individually and for our profession. Each of you has at your fingertips today a world of great opportunity and promise as you enter the profession of pharmacy. Our profession has in front of it a bright and rewarding oppor-

tunity, the opportunity to increasingly impact health care in this country and to dramatically improve and enhance the care and well-being of our patients.

That's a great message—sounds a little bit like Hollywood—seems too good to be true and maybe too simple! Yep, you're right. There is one hitch, one simple caveat.

I truly believe that pharmacy has a bright future with no limits, IF—yeah, there is always an IF—IF you proactively lead your profession into the future—if you take charge and personally shape the role of pharmacy moving forward.

That, in a nutshell, is my central point--have no fear, no doubt—pharmacy is a strong and healthy profession today and will become even stronger in the future. Stronger, IF you take the lead, IF you take charge and shape our profession's future role in health care.

You have a bright future regardless of the path or paths you choose. I know, I've had a varied career path myself. I started out as a retail pharmacist behind the counter in Brevard, North Carolina, where I practiced for three years, later moving into the pharmaceutical industry.

And, as I look at this graduating class, I recognize that some of you will select retail pharmacy, some hospital pharmacy, some will enter academia and teaching or research routes, and some will follow the path I have chosen—to enter the pharmaceutical industry.

In addition to career paths, pharmacy now offers degree paths—B.S. and Pharm.D.

And my constant message to you is: regardless of the career path you select, regardless of the degree, B.S. or Pharm.D., you have a world of opportunity at your fingertips.

Regarding the degree, I know this class is graduating with a B.S. degree, and you may be wondering should I get a Pharm.D.? Am I in any way disadvantaged?

Again, have no doubt, you will make significant contributions with your current degree. I do not believe you will be disadvantaged in any way. Plus, you will always have the chance to obtain a Pharm.D., if you wish, via the non-traditional route.

So while there are differences inherent in the road you may walk at any given time, there is an underlying unity in the profession of pharmacy that gives our profession great strength today, and in the future.

No other graduating class on this campus today can make a claim which, I believe, has been greatly under-emphasized for pharmacy—not medicine, not dentistry, not nursing, not business. You are the only graduating class at UNC today entering the single most trusted and respected profession in America—yes, *pharmacy.*

In a recent poll conducted by the Gallup organization, pharmacists were named the most trusted professionals in the nation. Twenty-six occupations were ranked on honesty and ethical standards by the American public. Pharmacists finished first, significantly ahead of the second-place occupation, the clergy.

What's more impressive is that this is the seventh consecutive year in which pharmacists have won the poll.

The role of the pharmacist as an advisor, as an active participant in shaping the future of health care is becoming more and more evident, but I think we've only scratched the surface in terms of our potential to positively impact health care delivery in the U.S.

As you know, American society is searching for ways to deliver high quality, cost-effective medical care.

You're familiar with the statistics, if left unchecked, with no intervention, by the year 2000, health care expenses will grow to represent 71% of American corporations' pre-tax profits. Astounding, yes! Seventy-one percent of pretax profits.

That's why the concept of managed care is quickly taking charge of our health care plans. That's one reason why health care reform is a plank in every political candidate's platform whether state or federal elections. That's why your pharmacy's co-pay and reimbursement schemes are shrinking, seemingly on a monthly basis.

And unfortunately, that's why the pharmaceutical component of health care has been carved out and treated as a stand-alone cost

center in too many health care plans and programs with little or no link to treatment outcomes or other modes of therapy.

And I'm here today to tell you something you already know, that approach to pharmaceutical care is dead wrong!

As Dr. John Gans, a former executive vice president of the AMA once said, "prescription drugs and pharmacists are the most cost-effective part of the American health care system."

I know that is a fact and you know it is a fact.

Physicians prescribe medications to treat conditions/illnesses. The appropriate use of medications will not only dramatically improve a patients quality of life, but also provide significant cost savings in the form of reduced hospitalizations, reduced surgeries, and reduced emergency room visits.

Notice that I said "the appropriate use" of medications. That's where we come into the picture as true experts on rational drug distribution, selection and treatment. Your excellent training and education here at UNC will allow you to not only provide the very important function of drug distribution, but also to play a central role in ensuring safe, effective, timely, and cost-effective use of pharmaceuticals. I believe the time has never been riper for pharmacists to clearly demonstrate how we can positively impact U.S. health care.

"I am surrounded daily by the most talented leadership we have in all of pharmacy. Student leadership. I thrive on interacting with students and new graduates. They are bright, creative, energetic, and — they have no concept of the impossible. They are driven by the truth and by what they perceive as right."

This is precisely why I said at the beginning of our time together that our profession's future is bright and will be even brighter if you take charge, take the lead in shaping the future role of our profession.

So, what do I mean by this? Well . . .

- As America's most trusted profession
- As the best trained health care experts on pharmaceutical care
- As a pivotal part of any health care delivery system

You will be in the best position of anyone to take the lead in convincing payors, governments, insurance companies, and other health care providers of the value of pharmaceutical care, of the value and cost savings, (cost savings which can be realized as a result of your expert advice,) counseling, and overall patient management.

You are in the best position to convince payors and the government that pharmaceutical care is a key part of the health care solution, not a part of the problem.

And I must admit that I am infinitely confident of your ability to lead our profession into the future. On many occasions I've spoken to Bill Campbell, members of the faculty including Dr. Hadzija, Dr. Cocolas, and members of your class including Brandon Maddox and Heather Hargraves, among others, all of whom constantly remind me of your accomplishments, strengths and positive attitude.

I'm reminded of something that the Dean of the Massachusetts College of Pharmacy once said to me when I was a detail representative starting out in the industry in Boston. He said: *"I am surrounded daily by the most talented leadership we have in all of pharmacy. student leadership. I thrive on interacting with students and new graduates. They are bright, creative, energetic, and they have no concept of the impossible. They are driven by the truth and by what they perceive as right."*

Our future is dependent on the quality of the people who enter, sustain, and lead our profession. That is now, from this day forward, your role, and your responsibility.

In closing, I hope you will allow me a few more minutes of personal reflection. When I'm at a social gathering away from the pharmaceutical industry, Glaxo Wellcome, etc., and someone approaches me and asks, "What do you do for a living?" I always say to them first, *I'm a pharmacist.* I don't say I'm a general manager at what is now being called the giant pharmaceutical firm, Glaxo Wellcome. I don't

say I'm in charge of business operations—the sales force for the company. Instead, I say I'm a pharmacist. This is fact. And I believe that I developed that pride in our profession here at this institution. I am a pharmacist.

Very soon you are going to be pharmacists; members of a trusted, respected, and honored profession. So, go for it in ways that seem prudent; go for it in ways that you know are right; and go for it in ways that are ethical and truly in the patient's best interest.

THANK YOU!

Class of 1996

Rebecca L. Aalfs, *Raleigh*
Shelley M. Adkins, *Statesville*
Cherine M. Ali, *Raleigh*
Cynthia A. Allen, *Durham*
Regena L. Allen, *Shelby*
Shelli D. Ambrose, *Edenton*
Jayshree M. Amin, *Chapel Hill*
Brenda S. Aske, *Matthews*
Daniele V. Ayer, *Charlotte*
Shelly E. Bagley, *Jamesville*
Shannon D. Banner, *Walkertown*
Faith D. Barnett, *Mt. Olive*
Jill M. Barr, *Lansing*
Marcus C. Barrett, *Jefferson*
Monica J. Bauman, *Chapel Hill*
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Kappa Epsilon Award
Laura F. Letterman

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Brandon L. Maddox

Student Body President Award
Brandon L. Maddox

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Amy D. Sauls

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Kate M. Wilson

Award for Achievement in Pharmacology
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American Society of Health-System Pharmacists Student Leadership Award
Giyae Lee

Senior Hollingsworth Scholar
Danielle Weeden

Tom Burgiss Scholarship Award
Shelley D. Adkins

1996 Outstanding Honors Student Paper
Phillip C. Hooper

Doctor of Pharmacy Program
Award for Excellence in Clinical Communication
Lisa D. Hampton

Division of Pharmacy Practice Award
Frances P. Davis

Howard and Mescal Ferguson Merit Scholarship Award
Lisa D. Hampton

AROUND THE STATE

PLYMOUTH—Logan Womble, president of Womble Drug Store, was recently named vice-chair of United Carolina Bank's Northeast Region advisory board.

HENDERSON—Charles 'Chocky' White was recently named Vance County's 'Best Pharmacist' for 1996. White, a repeat winner of the award, received the special recognition for dispensing critical information along with prescription medication to his patients for a quarter of a century.

NEWTON—Tad Adams has been named Catawba Memorial Hospital's 1995 C.A.R.E. Employee of the Year. Catawba Memorial's monthly C.A.R.E. award recognizes and rewards employees who exhibit courtesy, a positive attitude, respect for patients and co-workers, and enthusiasm for their job. The C.A.R.E. Employee of the Year is selected from the 12 monthly winners.

KINSTON—Kelly Cauley, a 1986 graduate of the UNC School of Pharmacy was recently named to the chancellor's list for the fall semester at East Carolina University. Kelly was employed at Eckerds for 10 years and now operates a private relief service while attending pre-med school full-time at ECU.

WEDDINGS

BENSON—Heather Austin wed Charlton Norris on Feb. 24. Heather is a 1995 graduate of the UNC School of Pharmacy and is employed by Austin's Drug Store in Four Oaks.

OBITUARIES

OXFORD—J.B. Clay, 60, of 107 Edgewood Drive, died Sunday, January 7, 1996.
Clay, a native of Nash County, was a UNC School of Pharmacy graduate. He owned and operated Halls Drug Store for 28 years. Clay was a licensed amateur radio operator, a member of Oxford Baptist Church, a former member of Oxford Rotary Club and a member of the North Carolina Pharmaceutical Association.

ROANOKE RAPIDS—James Floyd Barden III, 51, died Tuesday, February 27, 1996. Barden was a former teacher in area schools and a local pharmacist for 16 years. He was a graduate of East Carolina and the Medical College of South Carolina in Charleston and a member of the North Carolina Pharmaceutical Association.

BURLINGTON—Mack Elmo McCorkle, 60, died Friday, May 10. He was a graduate of the UNC School of Pharmacy, past president of the Alamance County Pharmaceutical Association and a member of the Alamance County Board of Health and the North Carolina Pharmaceutical Association. McCorkle was owner operator and president of Satellite TV Systems of NC and former owner of Medical Center Pharmacy in Burlington.

BURLINGTON—Sandy Davis Griffin Jr., 77, died Friday, May 31. He was a graduate of the UNC School of Pharmacy and a member and past president of the North Carolina Pharmaceutical Association and the Alamance County Pharmaceutical Society and was a member of the American Pharmaceutical Association, and the National Association Representing Independent Retail Pharmacy. He was a member of the First Baptist Church of Burlington. He was owner of Griffin's Pharmacy in Burlington from 1956 to 1993.

CORRESPONDENCE COURSE

PATIENT COUNSELING: NEW DRUGS OF 1994-95
PART 4: TACRINE

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Dean and Professor of Pharmacology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Pharmacy Practice
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to identify and discuss new drugs introduced to the marketplace during 1994-95, with special emphasis given to a new drug for the treatment of Alzheimer's disease.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. exhibit knowledge of the pharmacologic classification and therapeutic considerations for tacrine;
2. select from a list, the indication, mechanism of action, benefits and limitations of tacrine;
3. identify adverse effects, major toxicities, and drug interactions associated with tacrine; and,
4. demonstrate an ability to counsel patients on tacrine.

Alzheimer's Dementia—The Disease

Alzheimer's disease dementia, named for the German neurologist who first described the condition in 1906, is a progressively degenerative disease that damages the brain and causes impaired memory and behavior. It eventually results in death due to failure of the organs innervated by the diseased portions of the patient's brain. The course of the disease, once symptoms appear, is usually 2 to 10 years. It results in the inability of victims to care for themselves in its later stages.

The statistical data associated with Alzheimer's disease are staggering. According to the Alzheimer's Disease and Related Disorders Association, approximately four million Americans have the condition. It is estimated that this will rise to 14 million midway through the next century if a cure is not found.

Alzheimer's disease is the fourth leading cause of death (100,000/year) among adult Americans. While the disease principally af-

Table 1
Tacrine

Generic Name	Trade Name	Availability	Dosage Regimen
Tacrine	Cognex	10, 20, 30 and 40mg capsules	10mg qid for 6 weeks, then titrate upward to 40mg qid

fects persons over 65, it does occur earlier in life. However, after age 65, one in 10 persons and nearly 50 percent of those over age 85 have Alzheimer's disease.

The disease costs society approximately $100 billion a year. Since neither Medicare, nor private insurance companies covers the type of care most Alzheimer's disease patients need, most of the cost is borne by the family of victims. These costs are estimated at $18,000/year for home care and $36,000 to $75,000 for long term care facilities.

Although this disease was described nearly 90 years ago and similar cases were seen numerous times over the years, it was regarded mainly as a symptom of old age until the 1960s. This was due to advancements in the use and capabilities of electron microscopes in the study of disease states.

By 1976, scientists had discovered that Alzheimer's disease was caused by a neurochemical deficiency in the brain. As with Parkinsonism, schizophrenia, depression and other mental disorders, this breakthrough opened the door for studying Alzheimer's disease as a specific disease, separate from the normal aging process.

As a side note, there was no tremendous groundswell of sensitivity toward Alzheimer's disease victims and their families until Abigail van Buren answered a question about where to find information on Alzheimer's disease in her "Dear Abby" column in the 1970s. Her reference to a fledgling Alzheimer's disease support group, which at that time had only seven chapters and 700 members, brought in tens of thousands of letters asking for more information.

According to the organization, this helped increase interest and advocacy for Alzheimer's disease research and support leading to today's international organization operating in 28 countries. By 1994 in the United States, the Alzheimer's Disease and Related Disorders Association had more than 220 chapters, 35,000 members and 2000 local support groups.

Dementias

Alzheimer's disease is one of several dementing disorders. Others are caused by cardiovascular diseases such as atherosclerosis and myocardial infarction; metabolic disorders such as hypothyroidism, hypoglycemia, hyperlipidemia and systemic lupus erythematosus; organ disorders such as liver, lung and kidney disease; and infectious diseases such as AIDS, encephalitis, meningitis, and syphilis.

Other types of dementias result from degenerative disorders such as Parkinsonism, Gaucher's disease and Huntington's disease. Cancer, alcoholism, carbon monoxide and other toxic chemicals, and many other conditions lead to dementias as well.

Similar to other dementias, patients with Alzheimer's disease progressively lose short term memory, speaking skills and the ability to perform abstract thought processes. These worsen continually, eventually causing permanent changes which interfere with self-care and routine daily activities. As the disease continues, patients suffer from deliria and depression concurrently.

Patients get lost. They suffer poor job performance, cannot carry on a conversation and lose interest in social contact. In the next stage of deterioration, knowledge of current events and personal and family history deteriorates,

as well as the ability to perform simple tasks, such as mathematical calculations, and later more complex ones. During this time, most patients are anxious and deny that they are having problems.

The next stage is loss of memory of names, phone numbers, addresses, social security number, and disorientation to time and location. This advances to unawareness of the patient's environment and recent events. Delusions, severe anxiety and possibly violent behavior frequently follow.

In late dementia, patients lose the ability to feed themselves, dress, verbalize and maintain continence. Death ensues within months to several years.

Risk Factors for Alzheimer's Disease

While the exact cause has not yet been determined, there are a number of risk factors that may contribute to its occurrence. These have been reported to be genetics, toxins, trauma and vascular disease.

Genetics. Certainly, Alzheimer's disease can occur in anyone, but there is evidence that a family history of the disorder is the most consistent risk factor, increasing the potential 400 percent. Several years ago, scientists believed they had discovered the gene that causes Alzheimer's disease. It is now felt that, while there is an association with a gene defect (known as chromosomal Alzheimer's disease amyloid precursor), an absolute link between the activity of this gene and all cases of Alzheimer's disease has not been proven.

Head trauma is another risk factor for the development of clinical signs of dementia including Alzheimer's disease. It has been proposed that, while trauma is not the cause of Alzheimer's disease, head injury can accelerate its development by 5 to 7 years.

The toxin most associated with Alzheimer's disease is aluminum, which is the most abundant metal in the earth's surface. The human body has efficient mechanisms to prevent its entry and significant accumulation. Nonetheless, for several years it was believed that aluminum accumulation played a role in Alzheimer's disease. More recently, strong contradictory data has been uncovered and the association is no longer a popular belief. It is true that ionic aluminum inhibits many enzyme systems and that its application directly to brain tissue does induce degeneration. However, the dementia that follows does not resemble Alzheimer's disease.

Vascular disease appears to be a contributory risk factor to Alzheimer's disease. Patients with coronary artery disease and previous myocardial infarction are considered to have a six-fold greater chance of developing Alzheimer's disease.

Diagnosing Alzheimer's Disease

Several abnormalities in the brain are associated with Alzheimer's disease, most specifically clusters (plaque) of what is called amyloid protein as well as cortical neurofibrous tangles (bundles). Patients with Alzheimer's disease invariably have deposits of dense clusters of amyloid in the brain. These are thought to damage adjacent nerve endings and render them useless.

However, amyloid plaques are no longer considered to be the sole cause of Alzheimer's disease. In the last few years, autopsies have identified significant number of individuals whose brains has enough plaque to meet the criteria for Alzheimer's disease, but had no noticeable cognitive impairment.

The bottom line at this point is that most patients with Alzheimer's disease, on autopsy, show numerous plaques high in amyloid content and bundles of neurofibrils. These are considered to be the major diagnostic indicator of Alzheimer's disease. Unfortunately, the reality is that under normal conditions the plaque and bundles can only be discovered after the patient's death.

As stated earlier, Alzheimer's disease is one of dozens of dementias. However, it is reported that at least 75 percent of demented patients have Alzheimer's. While definitive diagnosis is based on histological changes in brain tissue seen on autopsy, there are several guidelines that differentiate Alzheimer's disease from other dementias which can be applied while the patient is alive.

Table 2
Criteria for Alzheimer's Disease

I. DSM-III-R Criteria (adapted)

A. Demonstrable evidence of impairment in short-and long-term memory, and at least one of the following is present:
- Impairment in abstract thinking (e.g., inability to find similarities and differences between related words, difficulty in defining words and concepts).
- Impaired judgment (inability to make reasonable plans with interpersonal, family or job-related problems and issues).
- Other disturbances of higher cortical function.
- Personality changes.

B. The impairment or disturbance significantly interferes with work or usual social activities or relationships with others.

C. The impairment or disturbance does not occur exclusively during the course of delirium. Either of the following occur:
- There is evidence from the history, physical examination or laboratory tests of a specific organic factor(s) judged to be etiologically related.
- In the absence of such evidence, an etiologic organic factor can be presumed if the disturbance cannot be accounted for by a nonorganic mental disorder (e.g., major depression).

D. Insidious onset with uniformly progressive deteriorating condition.

E. Exclusion of all other specific causes of dementia by history, physical examination and laboratory tests.

II. NINCDS/ADRDA Criteria (adapted)

A. Criteria for clinical diagnosis of probable Alzheimer's disease:
- Dementia established by clinical examination, documented and confirmed by standardized tests.
- Deficits occurring in two or more areas of cognition (memory, calculation, judgment, etc.)
- Progressive worsening of memory and cognitive functions.
- No disturbance of consciousness.
- Onset between ages 40 and 90.
- Absence of systemic disorders, or other brain diseases that could account for progressive deficits.

B. Diagnosis is supported by the following:
- Progressive deterioration of specific cognitive functions.
- Impaired activities of daily living and altered patterns of behavior.
- Family history of similar disorder.
- Normal, nonspecific changes in EEG
- Evidence of cerebral atrophy, with documented progression.

(Please see text for sources)

One set of criteria is the Diagnostic and Statistical Manual Volume III Revised (DSM-III-R). Another set is the National Institute of Neurological and Communicative Disorders and Stroke/Alzheimer's Disease and Related Diseases (NINCDS/ADRDA) guidelines. These criteria are outlined in Table 2.

Therapy

Even though the exact cause of Alzheimer's disease has not yet been elucidated, there are strong implications that there is no single factor involved. There appear to be multiple mechanisms that initiate the disease. This means that Alzheimer's disease is not likely to be cured or prevented by controlling only one causative factor in all patients. It also means that in the full spectrum of Alzheimer's disease patients, there are subgroups that will undoubtedly respond to one type of therapy and not others, and there will be a subgroup of patients who will require multi-agent treatments when they are discovered.

Since there appears to be several causative factors leading to Alzheimer's disease, drug therapy is multifaceted. Paramount among this is treatment of anxiety, restlessness, psychoses, agitation, sleep disorders, aggressiveness and depression that affect the patient, family members and care givers. Among the agents used are the anxiolytics, antidepressants, neuroleptics and psychostimulants. Ergoloid mesylates, pentoxifylline and calcium channel blockers are used in an attempt to increase blood flow and oxygen supply to brain cells.

However, since cholinergic deficit in the brain appears to be a component of Alzheimer's disease, this article will zero in on the first drug approved for specific use in its treatment, the cholinesterase inhibitor tacrine.

Cholinesterase Inhibitor Therapy

The group of drugs that has shown at least moderate beneficial effects in a subpopulation of patients with Alzheimer's disease is the cholinesterase inhibitors. The first drug in this group to be approved for marketing is tacrine (Cognex).

The areas of the brain most affected in

Table 3
Patient Information for Cognex

Cognex is used to treat symptoms of Alzheimer's disease and other conditions as determined by your doctor.

- This leaflet is intended to help assure Cognex is taken correctly, NOT to be confusing. If the doctor has told you something different, follow those instructions.
- Cognex should be taken four times a day, between meals and at bedtime with a full glass of water. If stomach upset occurs, the capsules may be taken with meals.
- It is important that Cognex be taken exactly as the doctor has instructed. DO NOT skip a dose, change the amount, or stop taking it without consulting the doctor.
- If a dose of Cognex is missed, it should be taken as soon as possible. But, if it is almost time for the next dose, skip the missed dose and go back to the regular dosing schedule. DO NOT give the patient a double dose, unless directed by your doctor.
- Keep Cognex at room temperature, in its original, labeled container and out of the reach of children. In case of accidental ingestion or overdose, call the doctor or poison control center immediately. DO NOT keep or use outdated medication.
- Every medication is capable of producing side effects. Most patients experience few problems while taking Cognex. However, be sure to tell the patient's doctor if the following occur: severe nausea, vomiting, diarrhea, skin rash, muscle pain, abdominal pain, severe headache, swelling of the extremities, yellowing of the skin, persistent sore throat, excessive dizziness and agitation, difficulty in sleeping, runny nose, changes in stool color (either very dark or very light) or any other unusual, bothersome effects.

*Adapted from the Pharmex PALs (patient advisory leaflets). For more information, call 1-800-233-0585.

Alzheimer's disease are the hippocampus and cortical areas, which are involved in the integration of information from sensory input. Here is where we relate input to prior life experience (memory) so we can determine how we will perceive what we hear, see, smell, taste and touch. This is why loss of short- and long-term memory are among the early indicators of Alzheimer's disease.

The above areas have a very high concentration of cholinergic cells and nerve endings. Their destruction is a major factor in memory loss. Drugs that can reduce further deterioration and enhance the activity of those that remain are considered useful in helping restore memory and possibly deter the advancement of Alzheimer's disease.

Tacrine {ta-KREEN}-Cognex {cog-NEX} is a centrally acting cholinesterase inhibitor. Its mechanism of action in Alzheimer's disease results from its ability to slow the breakdown of acetylcholine produced by functioning cholinergic neurons in the brain. Other, possible contributory activities attributed to tacrine are its partial stimulation of cholinergic receptors; as well as mild reuptake blockage of norepinephrine, serotonin and dopamine; monoamine oxidase inhibition; and blockade of sodium and potassium channels.

The acetylcholine-sparing activity of tacrine moderately restores memory in some patients with Alzheimer's disease. Its manufacturer is straightforward in pointing out that the drug is not effective in all patients. There is no evidence that the drug affects the underlying condition or alters its course. Since the drug relies on the integrity of cholinergic activity, tacrine therapy will, at some point, become ineffective as the disease process progresses.

The upside to the use of tacrine is that for those patients for whom it is effective, it improves memory and other symptoms of Alzheimer's disease. It allows these patients to communicate with family and friends during a period of time they would not be able to if untreated. And, it makes them less of a burden on those providing their care during this period of time.

The rate of absorption of tacrine is variable among patients receiving it. Taking tacrine with food reduces plasma levels 30 to 40 percent. This can be prevented by taking the dose one hour before meals and at bedtime. However, as a cholinesterase inhibitor, tacrine increases gastric acid secretion and can lead to nausea, vomiting and diarrhea.

Therefore, the recommended dosage regimen is to take the capsules between meals whenever possible. However, if GI upset occurs, the dose can be taken with food to improve tolerability and compliance.

Drug Interactions. Since tacrine is a cholinesterase inhibitor, it is expected to increase the activity of other cholinergic drugs. The most significant drug interaction described is the potential for an exaggerated response to the surgical muscle relaxant succinylcholine. Tacrine has the potential to interfere with anticholinergic drugs, but no significance has been demonstrated to date.

Tacrine is metabolized extensively by the cytochrome P450 enzyme system utilizing the same isozyme as does theophylline. Its manufacturer warns that the coadministration of tacrine and theophylline may decrease the latter's clearance and raise its plasma levels approximately two-fold. It advises that when these are used concurrently, theophylline plasma concentrations be monitored and the dose reduced as needed.

Cimetidine can increase plasma levels of tacrine, but the significance of this is unknown. Drugs that have been studied but not shown to interact significantly with tacrine are warfarin, digoxin, benzodiazepines and antacids.

Side Effects. The primary adverse effects seen with tacrine relate to its cholinergic action. These include GI symptoms, agitation, urinary frequency and increased sweating. Rarely, hypotension and bradycardia have been seen. All of these can be lessened by starting with low doses of 10mg four times a day and titrating the dose upward over several months to 40mg four times a day.

The most serious adverse effect associated with tacrine is the risk of liver toxicity. While the occurrence of clinical hepatotoxicity is relatively rare (less than 8 percent of patients), approximately 50 percent of patients in tacrine premarketing trials experienced elevated ala-

nine aminotransferase (ALT) levels. This enzyme was known previously as serum glutamic pyrevic transaminase (SGPT). Elevated ALT does not mean that liver toxicity will occur, but it is a warning sign that it may.

Therefore, serum alanine aminotransferase levels should be monitored weekly during tacrine therapy. Physicians use dosing guidelines based on ALT results. In most instances, these levels return to normal after a drug-free period. Then, when the patient is given the drug again 88 percent can tolerate it with no further problems with elevated ALTs.

Side effects reported by the manufacturer at the 9 percent or higher level are: elevated transaminase, 29 percent (vs 2 percent for placebo); nausea and/or vomiting, 28 (vs 9) percent; diarrhea, 16 (vs 5) percent; dizziness, 12 (vs 11) percent; headache, 11 (vs 15) percent; dyspepsia, 9 (vs 6) percent; muscle pain, 9 (vs 5) percent; and, anorexia 9 (vs 3) percent.

Dosage. The recommended dose of Cognex is 10mg four times a day for a minimum of 6 weeks with weekly monitoring of ALT levels. Provided there is no significant ALT elevation during this time, the dose is increased to 20mg four times a day for another 6 weeks. The dose is then titrated upward at six week intervals to the optimal dose, usually 40mg four times a day.

Once the patient is stabilized, tacrine should not be discontinued abruptly due to the potential for a decline in cognitive function and behavioral disturbances. Changes in dosage should be under the direct instruction and supervision of a physician.

Additional information useful if counseling patients and caregivers on the use of Cognex is listed in Table 3.

CONTINUING EDUCATION QUIZ

Patient Counseling: New Drugs of 1994-95, Part 4: Tacrine

1. The breakthrough that opened the door for studying Alzheimer's disease as a specific disease, separate from the normal aging process, was the discovery that it was caused by a:
   a. bacterial infection.
   b. viral infection.
   c. neurochemical deficiency.
   d. vitamin deficiency.

2. The toxin most associated with, but not yet proven to be linked to, the development of Alzheimer's disease is:
   a. aluminum.
   b. chromium.
   c. selenium.
   d. zinc.

3. Patients with Alzheimer's disease invariably have deposits of dense clusters of which of the following substances in their brain?
   a. Aluminum
   b. Amyloid
   c. Asbestos
   d. Cholesterol

4. Autopsies have shown that individuals whose brains had enough plaque to meet the criteria for Alzheimer's disease:
   a. always had cognitive impairment.
   b. sometimes had no noticeable cognitive impairment.

5. While not yet approved for the indication, calcium channel blockers and pentoxifylline are used in patients with Alzheimer's disease in an attempt to:
   a. reduce the occurrence of Parkinsonian symptoms.
   b. increase cardiac output and stroke volume.
   c. reduce disease-related anginal attacks.

d. increase blood flow and oxygen to the brain.

6. Tacrine's mechanism of action is attributed to its inhibition of:
a. carbonic anhydrase.
b. monoamine oxidase.
c. cholinesterase.
d. phosphodiesterase.

7. The neurotransmitter affected to the greatest extent by tacrine is:
a. acetylcholine.
b. dopamine.
c. norepinephrine.
d. serotonin.

8. The ideal dosage regimen for tacrine is:
a. once daily in the morning.
b. twice daily.
c. three times a day.
d. one hour before meals and at bedtime.

9. The most serious adverse effect associated with tacrine is:
a. cardiotoxicity.
b. hepatotoxicity.
c. nephrotoxicity.
d. ototoxicity.

10. The enzyme serum level that must be monitored weekly during tacrine therapy is:
a. acetylcholinesterase.
b. phosphodiesterase.
c. alanine aminotransferase.
d. lactic acid dehydrogenase.

Cut out or Reproduce and Mail

CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Patient Counseling: New Drugs of 1994-95, Part 4: Tacrine

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
- Completed answer sheets may be returned on a monthly or less frequent basis for grading. **Quizzes not accompanied by payment will not be processed and will be discarded.**
- **This is a member service. Non-member tests will not be graded nor CPE credit hours given.**
- NCPhA will maintain a copy of your completed CPE tests and upon successful completion of each program, will issue a certificate for one (1) hour of North Carolina Board of Pharmacy approved CPE credit.
- If more than two (2) questions are answered incorrectly, the test is failed. You will be given one (1) opportunity to submit a second answer sheet.

Please circle correct answer

1. a b c d	4. a b	7. a b c d
2. a b c d	5. a b c d	8. a b c d
3. a b c d	6. a b c d	9. a b c d
		10. a b c d

Evaluation of material: Excellent Good Fair Poor

Name _____

Address _____

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Classified advertising rates are 25 cents a word for members with a minimum of $5.00 per insertion and for nonmembers, classified ads are 50 cents a word with a minimum charge of $10.00 per insertion. Ads are accepted for a single issue or specific time period only. The closing date for ad orders is the first of the month preceding the issue in which you are requesting insertion. Payment for ad orders will be billed. Names and addresses will be published unless an ad number for a blind ad is requested. In replying to blind ads, send to Ad ( ), c/o NCPhA, P.O. Box 151, Chapel Hill, NC 27514. Telephone 800-852-7343 or 919-967-2237.

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PHARMACISTS OPPORTUNITIES: Excellent environment in which to demonstrate professional skills. Positions available for the very best in many locations in the Carolinas. Excellent compensation and benefit programs including generous bonus and profit sharing. Send resume to Mark Chidester, Eckerd Drug Co., P.O. Box 31243, Charlotte, NC 28231, or call 704-371-3713.

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PHARMACISTS WANTED: Kerr Drug Stores has positions available for pharmacists in NC. Excellent benefits. Send resume to: Darlene Bergeron, Kerr Drug, 2522 S. TriCenter Blvd., Durham, NC 27713.

Hospital Pharmacist Positions

AUGUSTA MEDICAL CENTER, a new efficient 255 bed acute care hosptial in Shenandoah Valley of Virginia has a staff pharmacist position available in the decentralized pharmacy. The successful pharmacist will be oriented to practice in the patient care area. Components of our pharmaceutical care include pharmacokinetics, pain management, renal monitoring and patient teaching. Competitive benefits and salary complement this beautiful living and career environment. Submit a resume to: Human Resources Department, August Medical Center, P.O. Box 1000, Fisherville, VA 22939. AMC is an equal opportunity employer and service provider.

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PHARMACIST RELIEF: 4 NC, 1 SC licensed pharmacists available for hourly, daily or weekly work. All with computer experience with chain or independent pharmacies. Hourly rate of $22.50 per hour with $200 daily minimum. No S.S., federal or state tax, health insurance or company benefits to pay. No travel charge within 75 miles of company base. Regular scheduling available. Reply to Healthcon Services, Box 2 Southern Pines, NC 28388 or call (910) 692-8800.

RELIEF PHARMACIST: Working experience in chain and independent. Willing to travel. Call 919-872-2672.

PHARMASTAT INC., PHARMACY RELIEF SERVICES: Pharmacists available statewide for you pharmacy needs. 1-800-252-STAT.

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Apria Healthcare is the nations's leading fully integrated provider of home health care products and services with 350+ offices in 49 states. We now have immediate opportunities for part-time per diem pharmacists in the Morrisville, NC pharmacy location. Responsibilities will include compounding and dispensing medications and supplies, preparing and maintaining patient prescription files in accordance with state, federal, and JCAHO regulations, and assisting in the development and implementation of plan of care for patients. Applicant must be state licensed pharmacists, preferable with experience in home infusion. On call availability is a requirement of the position. If you want career growth with the nation's premier home health care company, mail/fax your resume to: Apria Healthcare, Attn: Regional Pharmacy Manager, 507 Airport Blvd., Suite 107, Morrisville, NC 27560 fax 919-481-4389. EOE.

Miscellaneous

DOCTOR OF PHARMACY (PHARM.D) OR COMBINED PHARM.D./ M.B.A.: Would you like to obtain a Pharm.D. degree? If you are a B.S. pharmacy graduate, contact the Director of Admissions, Campbell University School of Pharmacy, Buies Creek, NC 27506 or call 910-893-1200.

PHARMACISTS & PHARMACY TECHNICIANS: Herbal and homeopathic medicine now available to independent pharmacies. Contact: Doctor Rogers OTC, Homeopathic Medicines, Dist., 27 Wild Cherry Dr., Arden, NC 28704 or 704-891-5799.

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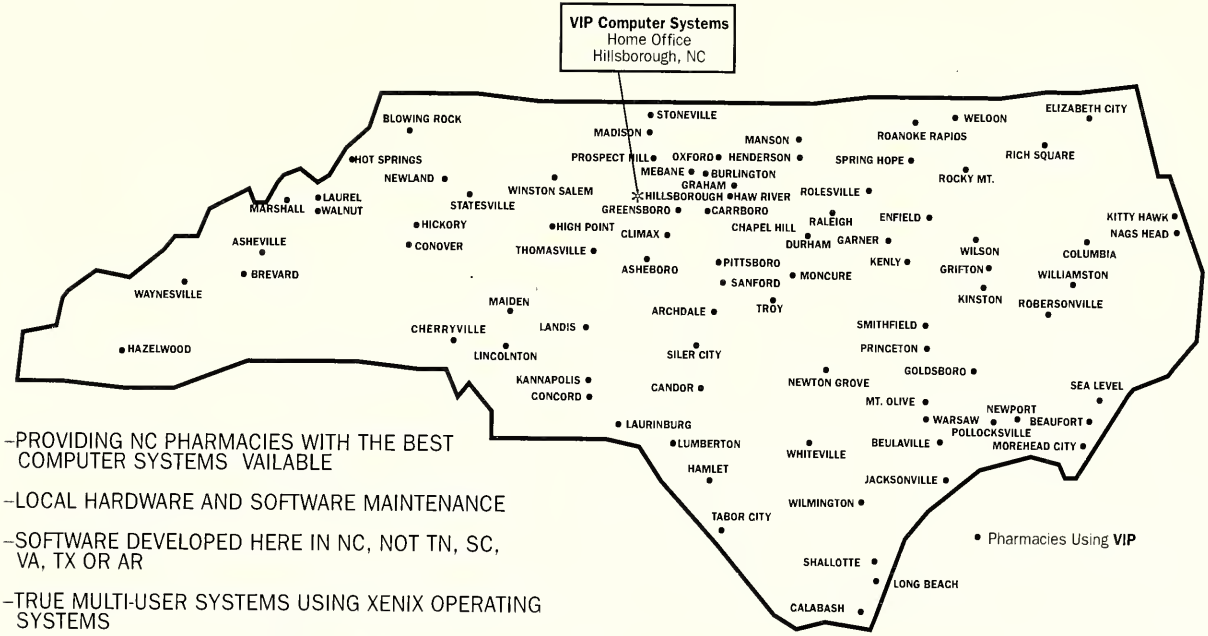

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Jeff Peterson *(left)*, Southeastern Manager Professional Affairs, Glaxo Wellcome Inc., presents incoming NCPhA President Phil Crouch with the traditional president's blazer.

INSIDE:
Convention Highlights

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On October 10, 1994, Kendall Drug Company became a division of Bindley Western Drug Company. Combined with the existing high service level and customer programs, the result will be the BEST possible combination in wholesale distribution available to your pharmacy.

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Shelby, North Carolina 28151
1-800-222-3856

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MEMBER NEEDS AND SEGMENTATION

by William E. Bond, EVP, CEO, Minnesota Pharmacists Association

Recognizing and meeting the diverse needs of members and potential members is a persistent challenge for staff. We must focus our attention on a wide variety of needs and services, or members will vote with their feet. This is evident by the recent trend where members have been vacating board-based organizations for specialty groups. Smart staff and progressive organizations are curtailing this trend by strategically segmenting their membership to meet ever more diverse needs. It's a vehicle to retain members and attract former as well as new members.

As we become a more complex society, organizations are moving towards more specialized endeavors. The associations which were built on the foundation of common concerns and needs, lack the structure to cope with exceptional concerns and needs.

By nature, these groups strenuously avoid those divisive topics. After all, association history is littered with the bodies of fellow staff who got caught between conflicting member issues which erupted in hard feelings and misunderstandings. So, we tend to avoid taking risks in a battleground laden with so many landmines.

Associations constantly struggle with the precarious balance between encouraging specialty group members to seek leadership roles and assuaging their need to challenge the old board and all of its notions. We worry when they are poised to walk away from what they perceive as a stagnant organization and begin their own organization.

But how does an "umbrella-type" organization retool to meet the diverse needs of differing factions within the membership?

Thomas C. Kinnear and Kenneth L. Bernhardt have identified in their work called *Principles of Marketing* the four keys to successful use of market segments as:

- Each segment should be large enough or sufficiently important to merit the cost of special attention.
- The merits of a segment must be congruent with the association's mission and resources.
- The association must be able to reach the segment.
- Different segments must respond differently to changes in marketing programs.

The difficulty lies not just in identifying potential membership segments but also in how to structure segments into the association. After identifying a segment, associations must decide whether to restructure to accommodate the segment's needs as well as the membership as a whole. If the decision is to restructure, then careful plans must be made as to how to rebuild the organization to be inclusive. Do you restructure the foundation? Or, do you build an addition?

The identified segments rarely fit neatly into defined parameters. Associations must take the time to clearly articulate definitions, roles, and responsibilities of member segments. There may be numerous stalemates during these explorations. But if Association leadership is serious about making room for this segment, do not let disagreements hinder your progress.

The struggles of our own association over the past six years illustrates this task. During a strategic planning process in the early nineties, it was revealed that pharmacists in specific practice settings were feeling neglected and were looking towards other associations which specialized in their practice needs.

When we began developing ways to meet these diverse needs, many feared this would diffuse the focus of the association and cause the 110 year-old organization to splinter.

So, we proceeded with caution and deliberateness. We initially identified 12 possible practice settings. Over time, eight remained as viable segments we call pharmacy interest groups of PhIGs. These PhIGs were: academic, chain management, community phar-

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macy (employees of chains and independents), hospital, independent, industry, long-term care, and managed care.

The next step was to determine how these segments would be integrated into our structure. It became apparent that each of the eight PhIGs wished to not only have the ability to determine their future but also the direction of the association as a whole. Unfortunately, there was only so many seats on the board and many feared that a game of musical chairs would ensue where someone would lose his or her seat.

At the time, our board was comprised of those elected to represent eight districts around the state. Over half of those members also happened to work in the retail pharmacy setting. A majority which did not go unnoticed by the emerging PhIGs.

However, board members were reluctant to give up their seats to fledgling segments. They wanted to see some evidence that these PhIGs were viable AND dedicated segments. So, for nearly two years the PhIGs organized, elected officers, and some even developed draft bylaws to show their strong commitment. Finally, in the fall of 1994, a bylaws vote of the general membership gave these PhIGs the authority to elect officers and obtain representation on the board. In the end, both groups won. The association retained representation on a district level and gained representation of practice settings.

The PhIGs have proven to be very committed to our association. These groups have been a source or new perspective, new membership recruitment, and generally a very positive force. I believe the staff is seeing evidence of a more member-driven organization.

The notion that these new folks would only work to advance their own interest, or would not show any real interest has proven to be unfounded. Our new board shows evidence of stronger commitment to member needs and appears to be truly united in advancing the profession of pharmacy. Our association has been revitalized.

We still have a few kinks in the structure to work out. For example, does a PhIG or subgroup have the authority to take a position which is not consistent with MPhA policy or is not supported by the entire organization? If so, what is the extent of that authority?

We have appointed a task group to make a recommendation of this difficult issue. While I can't predict the outcome, I am confident we now have the right people to make the right decisions. We have their dedication because we paid attention to their needs rather than stifling or neglecting their concerns.

Reprinted with permission from the Minnesota Pharmacist, November 1995.

DOUGLAS PRESENTS AT NC HEALTH CARE REFORM COMMITTEE PUBLIC HEARING

Jean Douglas, Moses Cone Hospital-Greensboro made a five minute presentation to the North Carolina Health Care Reform Committee (NCHCRC) on August 21, 1996 at the legislative building in Raleigh, NC. She spoke on behalf of the Pharmaceutical Care Committee (now called the North Carolina Center for Pharmaceutical Care Committee) to emphasize the pharmacist's critical role in today's health care system, as well as address the dilemma of reimbursement for pharmacist services rendered.

"Pharmacists may be the only health care provider with an opportunity to see a patient's complete drug therapy and complete heatlh care picture due to multiple providers, physicians, dentists, chiropractors, FNPs, etc."

Jean also submitted a written document to the committee for their review which included documentation supporting pharmaceutical care.

Other pharmacists attending the public hearing complimented Jean on her poise and presentation at this most important function.

The Times They Are A-Changin'

Bob Dylan

The NCPhA wants to "spiffen-up" our journal. Please look in the Sept./Oct. issue of the journal for your opportunity to tell us what you think. Any and all suggestions are welcome. We are relying on your input to better serve your needs. Thank you!

Second Annual

Practicing Geriatric Pharmaceutical Care

Workshop for Practicing Pharmacists Interested in Geriatrics and Long-Term Care

Date: Saturday, October 26, 1996

Time: 8:30 a.m. – 5:00 p.m.

Location: Jane S. McKimmon Conference Center, Raleigh, NC

Sponsors: North Carolina Chapter of the American Society of Consultant Pharmacists and Medical Education Services, Inc.

Continuing Education Credit Provided

Topics:

- The Total Cost of Drug Therapy: Fitting into the Equation
- Case Studies in Long-Term Care: Focus on Laboratory Values
- Disease Management Break-out Sessions in Small Groups:
  - Peptic Ulcer Disease
  - Pain Management
  - Urinary Incontinence/Urinary Tract Infections
  - Congestive Heart Failure
- Opportunities/Challenges for the Pharmacist in the Assisted Living Sector

Cost: Pharmacists $50.00

Pharmacy students/residents $20.00

Lunch, materials, breaks, and exhibits included.

For registration materials, please call: 1-800-821-4631

NORTH CAROLINA BOARD OF PHARMACY RECEIVES FRED T. MAHAFFEY AWARD

The North Carolina Board of Pharmacy received the National Association of Boards of Pharmacy's (NABP) Fred T. Mahaffey Award at a special awards ceremony during NABP's 92nd Annual Meeting at the Boston Marriott Copley Place in Boston, Massachusetts. An active member board of the Association since 1909, the North Carolina Board of Pharmacy has taken a leadership role in the advancement of pharmacy regulation.

Following extensive investigation by Board inspectors of an incident in which two hospital patients died after receiving the wrong medication, North Carolina became the first board of pharmacy in the United States to develop legislation that requires the reporting of drug-related deaths. The North Carolina Board was also instrumental in organizing a Pharmacy Leaders Forum at the state level. This annual meeting, which has been held in North Carolina for more than 10 years, offers an opportunity for pharmacy leaders throughout the state to meet, exchange ideas, and discuss legislative matters.

"The North Carolina Board is honored to receive an award named after Fred T. Mahaffey, who made such a great number of advances in pharmacy testing," stated Harold V. Day, president of the North Carolina Board of Pharmacy.

Headquarted in Carrboro, the North Carolina Board of Pharmacy is overseen by Executive Director David R. Work, and is comprised of Harold V. Day, president, pharmacist member; Jack Glenn Watts, vice president, pharmacist member; pharmacist members Albert Fulton Lockamy Jr., W. Whitaker Moose, and William H. Randall Jr; public member Timothy R. Rogers; and pharmacist member-elect Robert L. Crocker. The active participation of the Board's members and staff in NABP's programs has served as an exemplary model of a board of pharmacy's support of the Association.

The state boards of pharmacy regulate the practice of pharmacy, enforce all laws pertaining to pharmacy, and set the standards and requirements for the registration and licensure of pharmacists and pharmacies, as well as for manufacturers and wholesalers of pharmaceutical products.

Established in honor of NABP's Executive Director Emeritus, the Fred T. Mahaffey Award is presented by the Association's Past Presidents to an individual state board of pharmacy that has furthered NABP's mission and goals through its contributions to the protection of the public health and welfare.

The National Association of Boards of Pharmacy is a not-for-profit, independent, and impartial Association that, through its licensing examinations, interstate licensure transfer clearinghouse, and information services, assists its member state boards of pharmacy in developing, implementing, and enforcing uniform standards for the purpose of protecting the public health.

NC Board of Pharmacy members proudly display their recent award. From left to right: member Wm. Whitaker Moose; Executive Director David R. Work; members Albert F. Lockamy Jr., Harold V. Day, William H. Randall Jr., Jack G. Watts, Robert Crocker, and Timothy Rogers; and Board Counsel Carson Carmichael.

Welcome New Members!

Since January 1996 the following people have become members of the NCPhA. Due to space limitations the list represents those who joined January 1 through March 26, 1996. A continuation of the list will be printed in the next issue of the journal. These new members join more than 2,400 colleagues in the Association who are committed to advancing the interests of pharmacy in North Carolina.

Kent Painter, *Charlotte*
Robert G. Pearson, *Gastonia*
Annette M. Zuccolillo, *Charlotte*
Jenny Helms, *Maggie Valley*
Jeffrey Schmidt, *Maumee, OH*
Stephen Webb, *Ft. Myers, FL*
James West, *Asheville*
Robert Pratt, *Martinsville*
Walter Gose, *Knoxville, TN*
Robin Horton, *Tennessee, TN*
Ken Keever, *High Point*
Kimberly J. Phelps-Polvier, *Mt. Pleasant*
John Smothers III, *Greensboro*
Mary Elizabeth Thaggard, *Winston-Salem*
Larry Tucker, *Charlotte*
Robert C. Campbell, *Boone*
Steve Kwiatkowski, *Raleigh*
Teresa Moore, *Salisbury*
Carolyn Alperin, *Hendersonville*
Lena H. Patel, *Charlotte*
Alfred A. Addy, *Raleigh*
Charles H.Buchanan, *Meadows of Dan*
Elizabeth Craig, *Hendersonville*
Jean B. Douglas, *Greensboro*
Mary Jayne Kennedy, *Burlington*
Betsy Lynn Sleath, *Mebane*
Duvonya C. Abalos, *Ahoskie*
John K.Carter, *Loris, SC*
Lori Eberhardt, *Chapel Hill*
Richard P. Jump, *Greensboro*
Shahrzad Shamloo, *Durham*
Ginger Updegrave, *Raleigh*
Roger Brown, *Davidson*
Madhukar M. Mehta, *Greenville*

SEMINAR ON CHEMICAL DEPENDENCY IN THE PROFESSION OF PHARMACY BIG SUCCESS

On February 29th of this year, the North Carolina Pharmacist Recovery Network Inc., held its first annual chemical dependency seminar titled, "Chemical Dependency in the Profession of Pharmacy." This program was co-sponsored by NCPhA, and was made possible by a grant from the Pharmacy Network National Corporation, with promotional support from Phi Delta Chi Fraternity.

The main speakers were John and Pat O'Neill, nationally recognized intervention specialists, and licensed chemical dependency counselors. Other speakers included Al Lockamy from the Board of Pharmacy, Valerie Brooks from Dorothea Dix Hospital, Dave Marley, Program Director of NCPRN, and Scott Dinkins, R.Ph. The program was a resounding success with 96 pharmacists, from all areas of practice in attendance. Many of the participants noted in their evaluations that this was the best CE program they had ever attended.

Special thanks from NCPRN goes to PNNC's Executive Director Andy Barrett and Secretary Jimmy Jackson, and to NCPhA's Executive Director Al Mebane, without whose support this program would not have been possible.

NCPRN is currently seeking sponsors to make this CE program an annual event. Questions should be directed to Dave Marley at 910-784-8566.

MEMBERS OF THE 1996-97 NCPHA EXECUTIVE COMMITTEE

Kevin L. Almond
Member-at-Large: 1998

Randy G. Ball
Member-at-Large: 1997

J. Frank Burton
Member-at-Large: 1997

Linda L. Butler
Member-at-Large: 1998

Jimmy S. Jackson
President Elect

Phillip F. Crouch Sr.
President

Mitchell W. Watts
Immediate Past President

Stephen C. Dedrick
lember-at-Large: 1998

Joseph A. Edwards Jr.
Past President

Peggy C. Yarborough
Member-at-Large: 1997

Alfred H. Mebane III
Executive Director

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Zenith Goldline Pharmaceuticals

Congratulations 1996 Award Recipients

1996 NCPhA Pharmacist of the Year ..... *Albert F. Lockamy Jr., Raleigh*

Wyeth Ayerst Bowl of Hygeia ..... *Henry L. Smith, Farmville*

Marion Hoechst Roussel Distinguished Young Pharmacist *Jennifer Burch, Durham*

Don Blanton Award ..... *Jean B. Douglas, Greensboro*

ER Squibb Presidential Award ..... *Mitchell W. Watts, Concord*

Geigy Award ..... *Mitchell W. Watts, Concord*

DuPont Pharma Innovative Pharmacy Practice ..... *Gary Glisson, Nashville*

McKesson Incoming President's Award ..... *Phillip F. Crouch Sr., Asheville*

NARD Leadership Award ..... *Phillip F. Crouch Sr., Asheville*

Syntex UNC Preceptor of the Year ..... *Joseph A. Edwards Jr., Raleigh*

Syntex Campbell University Preceptor of the Year ..... *Douglas Dove, Apex*
..... *Delon Dove, Cary*

Presidential Recognition of Excellence ..... *Stephen M. Caiola, Chapel Hill*

1995-96 NCPhA Committee Reports

The revisions to the Constitution and Bylaws, were presented for approval to the membership during the 1996 annual NCPhA meeting. Changes to the Constitution were approved. Below is the revised NCPhA Constitution (additions are in italics). Due to space limitations, the Bylaws will be printed in the next issue of the Carolina Journal of Pharmacy.

CONSTITUTION
OF THE
NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Article I - Name

This Association shall be called *the* "North Carolina Pharmaceutical Association."

Article II - Purpose and Objectives

Section 1. Purpose: The purpose of this Association shall be to unite, *serve, and advance* the profession of pharmacy.

Section 2. Objectives: The objectives of the Association are:

(1) To improve the science and art of pharmacy and to elevate its *practice* standards.

(2) To assist its members in achieving economic, educational, governmental, and professional goals.

(3) To promote and encourage political action in issues related to pharmacy.

(4) To encourage and assist pharmacists in providing pharmaceutical care.

(5) To promote the benefits of pharmaceutical care.

(6) To promote and encourage the research, study, and resolution of issues related to the practice of pharmacy.

(7) To *promote careers in pharmacy.*

(8) To promote *and support* pharmacy education *in North Carolina.*

(9) To *provide educational resources to members.*

(10) To *communicate relevant information to its members on a timely basis.*

(11) To *maintain and enforce each member's adherence to the Association's Code of Professional Ethics.*

(12) To promote and encourage interdisciplinary communication *among* health professionals.

(13) To support the Mission Statement for North Carolina Pharmacy.

Article III - Code of Professional Ethics

Section 1. Code of Professional Ethics: The Association shall adopt a Code of Professional Ethics, the purpose of which is to elevate the standards of the professional practice of pharmacy and serve as a guide for the conduct and application of professional judgment by pharmacy practitioners. All applicants for active membership shall subscribe to the Association's Code of Professional Ethics.

Section 2. Ethics, Grievance and Practice Committee: The Ethics, Grievance and Practice Committee is the judicial division of the Association and shall be composed of five members, one of whom shall be an Executive Committee Member appointed annually. The executive director of the Association shall serve as the ex officio member of the Committee. It shall be the primary responsibility of the Ethics, Grievance and Practice Committee to interpret and enforce the Association's Code of Professional Ethics according to the provisions of the Bylaws and procedures duly adopted by the Committee. The Committee shall also serve to advance the practice standards of the profession of pharmacy.

Section 3. Procedures Penalties, and Appeal: An active member may be reprimanded, suspended or expelled from membership for violation of the obligations of the Code of Professional Ethics. An active member against whom a complaint for violation of the Code of Professional Ethics has been received shall be provided written notice of the charges and an opportunity for a judicial review or hearing by the Ethics, Grievance and Practice Committee according to established due process procedures. All decisions of the Ethics, Grievance and Practice Committee shall be final unless appealed to the Executive Committee within sixty (60) days from the date on which the member received notification of the decision by the Ethics, Grievance and Practice Committee. The majority decision of the Executive Committee of cases on appeal shall be final and binding.

Article IV - Membership

This Association shall consist of Active, Life, *Retired,* Student, Honorary, and Associate Members.

Section 1. Active Member: An Active Member is a *person* licensed to practice pharmacy under the laws of this state, or a graduate of an accredited School *or College* of Pharmacy, who has paid the annual dues and *subscribes to the Association's Code of Professional Ethics.*

Section 2. Life Member: A life member is an active member who has paid ten times the amount of the annual dues or who has been voted into Life Membership by the Executive Committee.

Section 3. Retired Member: A retired member is an active member who is eligible to receive social security retirement benefits, practices less than an average of twenty (20) hours per week, has paid one-half (1/2) of active member dues, and has requested retired member status.

Section 4. Student Member: A student *member is a person* enrolled in a School *or College* of Pharmacy *who has paid* the annual membership fee established by the Executive Committee-*and subscribes to the Association's Code of Professional Ethics.*

Section 5. Honorary Member: *An honorary member is* a person who has achieved exemplary distinction in or for pharmacy or the health sciences *and who has been designated such status* by the Executive Committee. Honorary members shall be exempt from annual dues.

Section 6. Associate Member: *An associate member is* a person not eligible for active membership who is interested in the profession of pharmacy, is willing to support the purposes and objectives of the Association, *and has paid the same dues as an active member.*

Article V - Officers

The Association shall have the following officers: a President, a President Elect, a Past President, and an Executive Director. *The President Elect shall be elected annually by mail ballot and shall hold office until a successor is elected and installed. The President Elect shall automatically assume the office of President without being subject to further election. The Executive Director shall be appointed by the Executive Committee and be employed by the Association as chief executive officer under terms and conditions approved by the Executive Committee. A vacancy in the office of Executive Director shall be filled by an individual appointed by the Executive Committee.*

Article VI - Amending the Constitution

Every proposition to amend this Constitution shall be submitted in writing to the Constitution and Bylaws Committee. *If* accepted, *such proposition shall be* referred to the Executive Committee. *The Executive Committee* shall submit *the proposition in* writing *to the membership at least thirty days prior to the next* annual meeting. It shall be acted upon at that annual meeting, where upon receiving a vote of two-thirds of the *active* members present, it shall *be submitted to the entire membership for vote by mail ballot within thirty days of the meeting in which the proposition was approved. The proposition shall be approved by not less than two-thirds of the active members voting in the mail ballot in order to* become a part of the Constitution of the North Carolina Pharmaceutical Association.

1995-96 NCPhA Committee Reports

RESOLUTIONS COMMITTEE

Proposed Resolution #1

WHEREAS, NCPhA believes that pharmacists and pharmacy students should not practice pharmacy while subject to physical or mental impairment due to the influence of alcohol and other drugs, or other causes that might adversely affect their abilities to function properly in their professional capacities, therefore

BE IT RESOLVED, NCPhA supports establishment of counseling, treatment, prevention and rehabilitation programs for pharmacists and pharmacy students who are subject to physical or mental impairment due to the influence of alcohol and other drugs, or other causes, when such impairment has potential for adversely affecting their abilities to function properly in their professional capacities.

Submitted by the NC Pharmacist Recovery Network Inc.

Action: *adopted*

Proposed Resolution #2

WHEREAS, NCPhA is gathering information by survey of our pharmacist members' salary, benefits and work conditions and whereas this information is vital to determine the needs and concerns of our members, therefore

BE IT RESOLVED, NCPhA encourages all of its members to participate and the Association, its president and board of directors, should take an active role in championing the needs and concerns identified by this survey and use every avenue available to improve the quality of the professional life of the members as it affects themselves and the patients for whom they give care.

Submitted by the NCPhA Employer-Employee Relations Committee

Action: *adopted*

NOMINATING COMMITTEE

The Nominating Committee of the NCPhA, in accordance with Article 1, Section 2 of the Bylaws of the Association, does submit the following slate of candidates for office, subject to the mail ballot of the membership. Each candidate has expressed a willingness to serve if elected and does meet the criteria established in the Bylaws for nominees.

Those candidates receiving a plurality of the votes cast will be installed in their respective offices at the 1997 Annual Convention in Myrtle Beach, S.C. The candidates are as follows: For the Office of President Elect: John A. Mitchener III, Edenton and W. Keith Elmore, Wilmington. For the Office of Member-at-Large of the Executive Committee (three to be elected for a two-year term of office) Samuel B. Burrus, Canton; Connie McKenzie Fleming, Buies Creek; Jean B. Douglas, Greensboro; Joseph S. Moose, Concord; William H. Morris, Waynesville; and Larry S. Long, Summerfield.

Biographical information and position statements for each candidate will appear in the January/February issue of the *Carolina Journal of Pharmacy.*

MEMBERSHIP DEVELOPMENT COMMITTEE

The Membership Committee continued the work of Project 3000, a long range blueprint for the development of membership with a goal of 3000 members. Efforts this year were focused on a major telemarketing campaign. NCPhA contracted with a Raleigh based telemarketing firm for the campaign.

The campaign targeted non-member pharmacists with a letter explaining the mission of NCPhA and was followed by a call from the telemarketing firm. The initial test group yielded a positive response for membership for those who were contacted by phone.

1995-96 NCPhA Committee Reports

PHARMACEUTICAL CARE AND PRACTICE COMMITTEE

The Pharmaceutical Care and Practice Committee, a joint committee of the North Carolina Pharmaceutical Association and the North Carolina Society of Hospital Pharmacists, has achieved several goals during the 1995-1996 year. Some highlights of the committee's accomplishments include successfully promoting Pharmaceutical Care in North Carolina via the "Passport to the Future Conference" and the "Leadership Forum." Both programs were well attended and well represented by various pharmacy interest groups.

A Pharmaceutical Care Research Project was also initiated to document the value of pharmacist services in improving patient health outcomes. The committee has currently secured almost half of the funding needed to ensure its execution, as well as established sites in the state to conduct the project.

Alliances were also created to provide a platform for pharmacists currently practicing Pharmaceutical Care to share ideas and support each other by developing guidelines and consistency in billing and documentation. The first alliance, held on June 8, 1996 in Greensboro, N.C. covered diabetes and was extremely successful according to the two coordinators, Peggy Yarborough and Julie Kirk. Peggy and Julie were very excited, refreshed, and optimistic by the participation in the program. A summary of the Pharmacists' Diabetes Alliance is featured below. Alliances will take place in other disciplines once funding becomes available.

PHARMACISTS' DIABETES ALLIANCE SUMMARY OF JUNE 8, 1996 MEETING

Response to the initial meeting of the Diabetes Alliance was tremendous. Over 60 pharmacists throughout North Carolina volunteered to participate. The Alliance was formed to establish a communication and working group of North Carolina pharmacists to promote diabetes care and learn ways to advance diabetes practice.

The group focused on the following objectives:

- Learn the variety and depth of diabetes services being provided by North Carolina Pharmacists;
- Compare our services with the national standards for diabetes education and care, reaching a consensus on the definition of certain services. This consensus is vital for promoting and receiving reimbursement for services;
- Discuss and determine the needs of attending pharmacists, to improve or expand their diabetes services. For example, would some pharmacists like advanced training in certain aspects of diabetes care?;
- Exchange experiences, successes, and failures in reimbursements for diabetes services; and
- Learn more about certification and national pharmacy initiatives in diabetes.

There was extensive positive interaction and much discussion around reimbursement strategies for North Carolina pharmacists. The Alliance plans future meetings on a quarterly basis with a core group meeting in July. The intentions of the Diabetes Alliance is to provide a forum for networking and bringing diabetes educators in North Carolina together so that educators are following guidelines and consistently providing similar care. If you are interested in joining the Diabetes Alliance please contact Peggy Yarborough at 919-237-8730 or Julie Kirk at 910-716-9043.

WOMAN'S AUXILIARY CONVENTION HIGHLIGHTS

The 1996 Convention of the North Carolina Pharmaceutical Association (NCPhA) marked the 69th annual meeting for the Woman's Auxiliary. Greetings were extended by NCPhA President Mickey Watts.

The Membership chairman reported a membership of 11 life members and 86 paid members. Neta Whaley was honored for her many years of devoted service to the Auxiliary with a life membership.

The WA paid homage to three members they lost during the past year with a memorial service.

Ruby Creech reported on the 1925 era drugstore to be opened in 1997 in the NC Museum of History.

David Marley, executive director of the NC Pharmacists Recovery Network gave an informative talk about the recovery program for drug addiction and the impact it has made on impaired North Carolina pharmacists.

All the officers and committee chairpersons gave their respective reports as another productive year was noted. Scholarship funds and continued refurbishing of the Pharmacy Institute building were the emphasis of the Ways and Means efforts.

The Woman's Auxiliary is grateful to its committee chairpersons, officers, and the general membership as well as the membership of the NCPhA, TMA, and pharmaceutical companies and suppliers for the generous support of its fundraising and projects. In addition, the Auxiliary appreciates the planning and creativity of Advisor, Betsy Mebane, the NCPhA staff and the Convention Committee for providing a memorable and pleasurable convention.

Pharmacist Recovery Network Executive Director David Marley spoke to the WA during the Business Session.

Daphne Ashworth and Jean Morse selling raffle tickets and WA wares (over $3,000 was made on raffle and art auction).

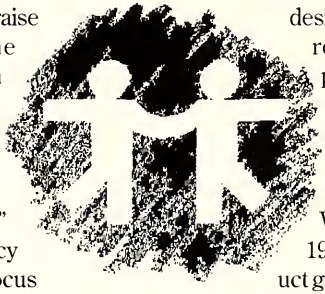
Newly Installed WA Officers: ***(left to right, standing)*** **Margaret Cekada,Corres. Sec.; Mary Lou Worley, Historian; Jean Morse, 2nd Vice Pres.; Rebecca Work, Treasurer; Karen Campbell, Parliamentarian; Shirley Barricks, 1st Vice Pres.; Daphne Ashworth, Advisor; Betsy Mebane, Coordinator;** ***(seated),*** **Peggy Jackson, Advisor; Betty Overman, President; Neta Whaley, Rec. Sec.**

Convention Pictorial

PLAN NOW FOR NATIONAL PHARMACY WEEK

Pharmacists are an excellent source of drug and health information, yet many patients are not aware of this valuable resource in their local pharmacies. To help raise public awareness of the profession's important health care role, pharmacists should plan now to participate in National Pharmacy Week.

With the theme, "Team Up & Talk With Your Pharmacist," this year's National Pharmacy Week, October 20–26, will focus on the importance of patients' speaking with their pharmacists about the prescription and nonprescription medications that they are taking, as well as other health-related issues. In addition, the event is also designed to highlight the expanded role of the pharmacists and pharmacies in the health care system.



To order balloons, T-shirts, mugs, and patient brochures to celebrate National Pharmacy Week events, call (800) 822-1923 or you may request a product guide from APhA by calling 512-323-6336.

THE UNC PHARMACEUTICAL CARE LABORATORY: WHERE PHARMACY EDUCATION AND PRACTICE MEET

What is the Pharmaceutical Care Lab... and why?

In 1990, UNC School of Pharmacy faculty began to plan curricular changes to meet new accreditation standards for the entry-level Doctor of Pharmacy degree and to address concerns about the preparedness of UNC graduates to provide pharmaceutical care. While our graduates are widely regarded as knowledgeable, both internal and external evaluations noted room for improvement in the areas of problem-solving, critical reasoning, clinical decision-making, written and oral communication skills, and continuous learning abilities... all essential skills in the provision of pharmaceutical care. In order to address these short-comings, we recognized a need to improve integration of basic, clinical, and social science instruction; provide students with early and ongoing exposures to the practices of pharmacy; and increase our focus on student-centered active learning experiences throughout the curriculum.

One mechanism for addressing these concerns has been the implementation of a series of "Pharmaceutical Care Lab" courses (AKA "PCL" or "skills labs"). First, the term "lab" is somewhat misleading. The four course series, which was developed and implemented with first year students in the Fall of 1994, bears little resemblance to the traditional pharmaceutics or dispensing lab and often doesn't even take place in a "laboratory" setting. Yes, we still compound various dosage forms and "dispense" prescription medications, but we have broadened our scope to include the "five C's" of a pharmaceutical care practice: **competence**, **confidence**, **caring**, **communication**, and **continuous learning**. Our ultimate goal is to facilitate the development of graduates who (1) are **competent** at recognizing, analyzing, and solving problems; (2) approach practice with an attitude of personal responsibility for providing effective and ethical patient **care**; (3) **communicate** effectively with patients and health care professionals in the provision of patient care; (4) are prepared to develop additional competencies through **continuous learning**; and (5) demonstrate **confidence** in their abilities to solve problems, communicate solutions, and develop personally and professionally.

Three fundamental rules guide the development and implementation of PC labs. (1) Minimal "new content" is presented in the lab; rather, the focus is on the **processes** involved in problem solving, communicating with others, and integrating and applying content from other courses. (2) Students are active learning participants. To achieve this goal, students are presented (individually or in teams of 4-5 students) with weekly opportunities to observe, practice, and refine a wide variety of professional skills and behaviors. To the extent possible, students are also actively involved in planning and managing their learning activities. (3) Skills are developed incrementally, beginning with simple, structured (guided) activities and progressing to more complex, autonomous activities.

During the first year of PCL, students learn to "speak" the "languages of pharmacy" (e.g. medical terminology, pharmacy calculations, patient counseling approaches), locate and assess drug information resources, read and process prescription orders, use and teach patients to administer various dosage forms and use home diagnostic products, counsel patients on the use of medications (top 100), conduct patient history interviews, and prepare formal written and oral presentations. Most of the learning experiences take place in the relative safety of the "lab," with small groups of students role-playing practice-related scenarios or solving case-study problems. Toward the end of each semester, students are given off-site interview or obser-

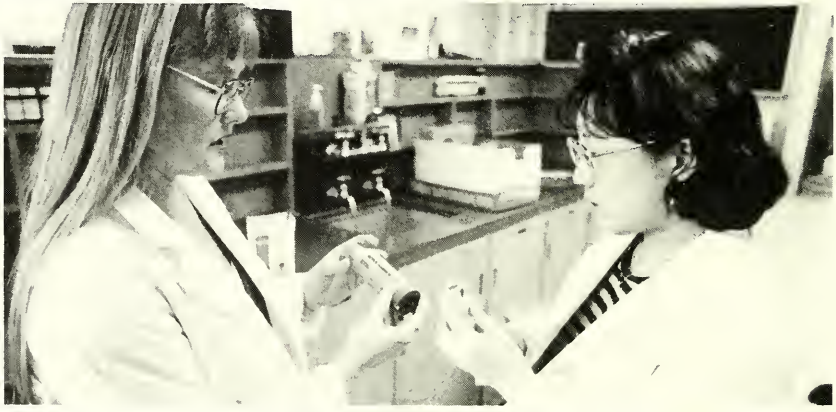
vation assignments to serve as a bridge to the professional experience program (PEP) requirements that are part of the first year of the new curriculum. As students progress into their pharmacotherapy instruction in the second year, the emphasis of PCL shifts to solving pharmacotherapy-related problems and communicating those "solutions" to patients or clinicians. Students practice and refine a variety of skills, including physical assessment; therapeutic decision-making; patient interviewing, education, and counseling; DUR/monitoring drug therapy; documentation of pharmacist's intervention, and communicating with other health care professionals. Students develop their organizational and written and oral communication skills throughout the series through regular preparation and discussion of care plans, case reports, consult notes, and formal presentations to consumer or professional groups.

What does PC lab mean to current practitioners?

If you currently hire or precept UNC pharmacy students, we hope you have already noticed a difference in our "post skills lab" students (those students now completing their "4/5" year). These folks are (or will be) coming to you with a broader repertoire of skills and an expanded set of expectations for professional practice. If you have a more patient/service-oriented practice, you may find that students are better prepared to participate in all aspects of your practice. If your practice is a more traditional, product-oriented one, students may appear frustrated and less willing to limit themselves to that role. At the same time, they may bring with them the ideas, skills, and energy needed to help you transform your practice site. Either way, the emergence into the practice of students with this new educational experience provides opportunities for the growth of students, practitioners, and faculty alike.

How can we partner with you to make PC labs work for everyone?

One of the greatest challenges to developing the PC labs is to make it simultaneously progressive, realistic, and balanced. While one of its primary goals is to help move N.C. pharmacy practice forward by providing graduates with a broader range of skills and abilities, we have an obligation to present students with a realistic picture of both the opportunities and obstacles they will encounter in the practice environment. In order to do that, we need input and support from all areas of the practice community. The most important thing you could do to help is to **share your experience with us**! What kinds of pharmaceutical care do you provide? Do you get paid for it? How? What barriers do you face? What have you done to minimize those barriers? What kinds of patient problems do you encounter and



Elaine Shelton, left, and Linda Park reviewing nebulizer instructions in the Pharmaceutical Care Skills Lab.

solve every day? What kinds of product-related problems have you experienced? Where do you go when you need help? The following are examples of ways that you could share your experience with us.

- **Send us interesting cases/patient profiles** (you can protect your patient's privacy by simply blacking out or changing the name)
- **Serve as an e-mail mentor.** If you are "connected" and like to spend part of your time in "cyberspace," let us pair you with a student pharmacist (or 2 or 3) to regularly discuss issues that are important to pharmacy. We may even have a "pharmaceutical care" discussion board up on the internet by the end of the year. Check the School of Pharmacy home page (http://sunsite.unc.edu/pharmacy/pharmacy.html) for more information.
- **Sponsor site visits for one or more student pharmacists.** We always need places that we can send students (there are 260 of them between the two classes!) for chart or patient profile reviews, patient interviews, or practice site assessments and recommendations.
- **Talk with student pharmacists about your practice.** Students need pharmacist role models in the classroom to help them see how to put their ideas (and ideals) into practice. If you suffer from stage-fright or just don't have time to drive to Chapel Hill and talk to a class, consider writing down some of your experiences so that we can benefit from your knowledge.
- **Volunteer in the lab.** If you live in the Triangle area and are willing to donate a few hours of your time, we always need extra "doctors" and "patients" in the lab. It's a fun way to get to know faculty and student pharmacists and expose yourself to some new skills in the process. You could even help from home by being the patient or doctor on the other end of the telephone line!
- **Come see what we're doing.** Even if you don't want to participate in the process, your observation of and feedback on what we're doing will be helpful. Also, as we plan to renovate the lab space (trying to focus on communication in a 1960's basic science lab is less than ideal!) your ideas would be appreciated.
- **Let us know how we're doing.** Our early assessments of the PC labs suggest that students who have completed PC labs (1) demonstrate competence at a variety of patient care skills, (2) are more likely than students who did not complete PC labs to rank patient-oriented practices as important, and (3) express a higher level of confidence in their practice skills than did students who did not complete PC labs. But their performance in the field will tell us much more about our success than any survey we can administer here, so please drop us a line from time to time and tell us what we're doing right and where we need to improve.

Whether through your contribution of time and expertise in the classroom, money to support building and renovation needs, or products for use in the lab (even expired drug products are useful), your involvement in the education of future practitioners is vital to the success of our educational program and our profession. The PC lab can be a mechanism for keeping the relationship between UNC School of Pharmacy and the practice community strong and productive!

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AROUND THE STATE

NASHVILLE—Gary Glisson, Ward Drug Store, recently won the Idea Exchange Luncheon contest during the NARD Rx Expo. Glisson's winning idea was to set up a program with local physicians to dispense blood glucose monitors, strips, lancets, and insulin syringes to Medicare and Medicaid patients who lack the transportation to reach the pharmacy. The physician faxes a form back to Glisson who then bills for the supplies. Glisson's winning idea merited a complimentary registration for himself and a guest at NARD's Annual Convention in New Orleans, Louisiana, in October or the '97 Rx Expo in San Diego, California in May.

WEDDINGS

MOUNT ULLA—Anna McLaughlin and **Brian Cribb** were married on April 6 in Mount Ulla, NC. Both Anna and Brian are 1994 UNC School of Pharmacy graduates, and they are employed by Revco Drugs.

CHAPEL HILL—Jo Ellen Baldwin and Dr. Philip Rodgers wed on April 20 in Chapel Hill. Both Joe Ellen and Philip graduated from the UNC School of Pharmacy. Jo Ellen is completing a pharmacy residency at the Medical College of Virginia Hospitals. Philip is an assistant professor at the Medical College of Virginia School of Pharmacy.

GREENVILLE—Jamie Durham and David Ward were married on May 4 in Greenville. Jamie and David are graduates of the UNC School of Pharmacy. Jamie is a pharmacist at Pitt County Memorial Hospital, and David is a pharmacist at the Winn Dixie Pharmacy in Greenville.

FAYETTEVILLE—Jennifer Culler and **Herbert "Joey" Pippin** were wed on May 18 in Fayetteville. Both Jennifer and Joey are graduates of the UNC School of Pharmacy. Jennifer is a pharmacist at Pitt County Memorial Hospital. Joey is employed by ECU School of Medicine as a clinical instructor of family medicine.

OBITUARIES

BURLINGTON—Pete Delon Freeman, 60, died Saturday, May 25, 1996. Freeman was a UNC School of Pharmacy graduate and received his M.B.A. from Virginia Commonwealth University. Freeman was a retired Eli Lilly and Co. sales representative. He was a part-time jazz pianist at the Tree Steak House in Jacksonville, Florida and a member of the North Carolina Pharmaceutical Association.

CHATER HONORED FOR ROLE IN MENTORING

Rebecca Chater, Fayetteville, was recently recognized at the annual meeting of the American Pharmaceutical Association (APhA) as recipient of the Gloria Niemeyer Francke Leadership Mentor Award.

The APhA award, named for a noted pharmacy leader and former pharmacy association staff member was established in 1994 to recognize a person who has promoted and encouraged pharmacists to seek leadership positions within pharmacy through example as a role model and mentor.

In addition to APhA, Chater is a member and of the North Carolina Pharmaceutical Association and a member of the board of directors for the UNC School of Pharmacy Alumni Association.

WHITEHEAD NAMED ASSISTANT DEAN AT CAMPBELL SCHOOL OF PHARMACY

Josiah R. Whitehead of Raleigh has been named assistant dean for External Relations for the Campbell University School of Pharmacy. Prior to joining Campbell University in 1993, he served as vice president of Corporate Affairs for Burroughs Wellcome Pharmaceutical Company, where he was employed for 36 years.

In making the announcement of Whitehead's promotion, Dean Ronald Maddox of the Campbell University School of Pharmacy commended him for his excellent efforts in establishing relationships for the School with corporations and professional associations throughout the United States.

Whitehead earned his bachelor of science in pharmacy from Butler University and his master of business administration degree from Xavier University. He has served as special assistant to the dean at the Campbell School of Pharmacy and has also taught a course in communications and patient counseling.

A Full Fellow of the American College of Apothecaries, Whitehead is a member of the National Association of Retail Druggists, the American Pharmaceutical Association, and the North Carolina Pharmaceutical Association. A past president of the Poe Center for Health Education, he has served as chair of the North Carolina Public Television Foundation.

Whitehead has served as a member of the Executive Committee of the Wake Medical Center Foundation and the Board of Trustees of the Children's Museum About the World (Exploris). He was appointed by Gov. Jim Martin to the Board of the North Carolina Foundation for Alternative Health Programs.

Whitehead and his wife, the former Ina Randels, have three grown children and three grandchildren.

Left: **Pharmacist Page Watson and Katy wave goodbye to the children following the Katy' Kids presentation to the preschoolers at First Presbyterian Church in Roanoke Rapids.**

Right: **Pharmacist Linda Blackburn presents the Katy's Kids program to a group of preschool children at Halifax Academy in Roanoke Rapids.**

CORRECTION

An error was made in the Continuing Education feature in the March/April issue of the Carolina Journal of Pharmacy. On page 32, an earlier continuing education article was inadvertently transposed with the Part 3: Aprotinin, Calcipotriene, and Stavudine. To correct this problem, please disregard the text on page 32 of the March/April issue and refer to the corrected copy below.

The Journal staff apologizes for this inconvenience and appreciates our readers bringing it to our attention.

The Editor

...zidovudine concomitantly have demonstrated that zidovudine inhibits the phosphorylation of stavudine. Stavudine, on the other hand, does not inhibit the phosphorylation of zidovudine. Combining these two drugs, therefore, is not considered to be advantageous over zidovudine therapy alone.

Adverse Reactions. The toxicity of greatest concern is peripheral neuropathy which has occurred in 15 to 21 percent of patients in clinical trials. It is characterized by a burning sensation and numbness of the fingers and/or toes. These can become progressively worse and more painful, and may be irreversible if the drug is not discontinued in a timely manner.

Drugs that can also cause peripheral neuropathy should be avoided if possible in patients receiving stavudine. These include chloramphenicol, gold salts, hydralazine, isoniazid, metronidazole, nitrofurantoin, phenytoin and vincristine.

Bone marrow toxicity has not been a significant adverse effect in studies to date, an advantage over zidovudine. Anemia has been observed in some patients, but there has been no evidence of significant leukopenia or thrombocytopenia.

Use in Therapy. Stavudine has shown efficacy in the treatment of adult patients with acquired immunodeficiency syndrome (AIDS), and AIDS-related complex (ARC). Significant increase in CD4 cell counts, weight gain, and an improvement in constitutional symptoms have occurred by the sixth week of therapy in patients with AIDS or ARC.

The drug should be useful for patients developing resistance or intolerance to other antiretroviral agents.

There are no data that evaluate the effect of stavudine on the progression of HIV infections. Its ultimate place in therapy is unknown at this time, but it is encouraging to find new agents effective against the AIDS virus.

Oral therapy with stavudine is associated with significant increases in, or stabilization of, CD4 cell counts in many patients. Improvement in clinical symptoms (e.g., diarrhea, fever, fatigue) and weight gain have also been observed during therapy. In many patients, however, CD4 cell counts have returned to pretreatment levels or below following prolonged therapy (12 weeks or longer) with stavudine.

Dosage and Availability. Stavudine is available in 15, 20, 30, and 40mg capsules. The usual dose is 40mg approximately 12 hours apart for patients weighing more than 60kg. Lower doses are indicated for smaller patients.

Information useful in counseling patients is presented in Table 3.

CORRESPONDENCE COURSE

PATIENT COUNSELING: SELF-TREATMENT OF HEARTBURN, PART 2: THE PRODUCTS

Thomas A. Gossel, R.Ph., Ph.D.
Dean and Professor of Pharmacology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Pharmacy Practice
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to discuss the treatment of heartburn, sour stomach and acid indigestion with OTC products, and to present information to use when counseling patients. Throughout this lesson, these symptoms will be referred to collectively as *heartburn*.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. identify OTC drug product ingredients that are used to treat heartburn;
2. choose from a list the major pharmacologic and toxicologic properties of the drugs;
3. identify interactions associated with the drugs, and state their extent of clinical significance;
4. differentiate between the therapeutic applications of OTC drug products used to treat heartburn; and,
5. demonstrate the ability to counsel patients on the treatment of heartburn with OTC products.

Antacids

Effective and inexpensive for treating heartburn, antacids are reportedly consumed chronically by approximately 85 percent of patients who have heartburn. More than $500 million each year is spent on antacids in the U.S. This places them among the most popular of all OTC products. Antacids are purchased largely in pharmacies, and comprise a major product category for which consumers seek pharmacists' advice before purchasing.

Antacids promote relief of symptoms by neutralizing the free hydrogen ion concentration of gastric juices so that, if reflux occurs, the esophageal lining can resist its corrosive action and irritation will be minimized. Antacids neutralize only the existing acid. They have no effect on the quantity of gastric acid secreted or its rate of secretion. The amount of acid that is neutralized is dependent on the dose and type of antacid preparation. Increasing the gastric pH from 1.3 to 2.3 effectively neutralizes 90 percent of acid. Increasing the pH to 3.3 neutralizes approximately 99 percent

of acid. By increasing the gastric pH, antacids also inhibit formation of pepsin from pepsinogen since this conversion is a pH-dependent process. Pepsin, in combination with hydrochloric acid, forms the corrosive gastric juices.

Many antacid products contain salts of aluminum, calcium or magnesium, while most contain a mixture of aluminum and magnesium. This combination maximizes the neutralizing capacity, while minimizing the laxative effect of magnesium ions, and constipative property of aluminum ions.

Sodium bicarbonate can be used occasionally for acute treatment of heartburn. It is not suitable for treatment of symptoms of GERD because it releases carbon dioxide which can increase the intra-abdominal pressure and worsen the condition.

The solubility of an antacid determines its onset of action: the more soluble, the more rapid its onset of action. Both sodium bicarbonate and magnesium hydroxide dissolve quickly at the acidic gastric pH and have a rapid effect. Aluminum hydroxide and calcium carbonate, on the other hand, dissolve slowly and require as long as 30 minutes to work. Liquid formulations dissolve more quickly than tablets. Chewing antacid tablets well before swallowing enhances dissolution and ensures maximum therapeutic benefit. Thorough chewing also avoids the lodging of undissolved tablets in the esophagus.

The neutralizing action of antacid products differs according to the length of time they remain in the stomach. Since the presence of food slows gastric emptying, antacids taken on a full stomach normally have a longer duration of action, up to 3 hours, compared to those taken on an empty stomach, approximately 30 minutes. Magnesium hydroxide and sodium bicarbonate have the shortest duration of neutralizing action. Aluminum hydroxide and calcium carbonate have the longest duration of neutralizing action.

The optimal dose for most patients is not known and probably varies among individuals. The lowest dose suggested on the label should be used initially.

Products containing calcium should not be used over a prolonged period since they can cause acid rebound. All antacids should be used cautiously in persons with renal disease.

Many orally-administered drugs may interact with antacids to increase or decrease the drugs' action. While the significance of many of these interactions is questionable, FDA has proposed that the labeling of OTC antacids be changed from warning about a potential interaction with tetracycline derivatives-only, to a drug interaction precaution statement warning that antacids can interact with all prescription drugs. Patients should be advised to not self-medicate with antacids concurrently with any prescription drug. This does not mean they are contraindicated. Rather, it means that before deciding whether to take an antacid, persons taking prescription drugs should seek the advice of a health care practitioner. In most instances, allowing two hours to elapse between doses of the other drug and the antacid will avoid the problem.

The most significant interactions are those with antacids containing aluminum, calcium, or magnesium, and drugs that can be chelated (bound) to them. The result is reduced absorption, thus decreasing pharmacologic activity. Certain quinolone antibiotics, tetracycline derivatives, and iron preparations are affected particularly.

For maximum relief of symptoms, antacids should be taken approximately 30 minutes after meals. Chewable tablets should be chewed thoroughly before swallowing and followed with a full glass of water to allow sufficient wetting of the antacid. Effervescent tablets should be allowed to dissolve completely and the bubbles to dissipate before consuming the dose.

Alginic Acid

A combination of alginic acid plus antacid is used to treat heartburn. The quantity of antacid in the combination is insufficient to alter the intragastric pH. The antacid functions to convert alginic acid to sodium alginate.

Sodium alginate does not mix with the gastric contents. Rather, it forms a viscous gel layer, termed a *raft of foam*, that floats on the

surface of the gastric contents. Concurrently, bicarbonate reacts with gastric acid to form carbon dioxide gas. The alginic acid entraps these gas molecules to form the *raft* that floats to the surface. If reflux should occur, the nonirritating foam, rather than irritating gastric contents, bathes the esophageal lining. This foam barrier may also physically block reflux of gastric contents into the esophagus.

To illustrate this, 10 patients with mild to moderate symptoms of heartburn were entered in a study to compare traditional antacid therapy with an alginic acid/antacid product. Each person received a symptom-provoking meal consisting of an egg-sausage biscuit containing 61 percent fat. Treatment was randomized to traditional antacid or the alginic acid/antacid combination product given immediately after the meal, and at one, two, and three hours afterward. The antacid had the same acid-neutralizing potency as the alginic acid/antacid combination. The alginic acid-containing treatment was significantly superior to traditional antacid in preventing the number of episodes and severity of reflux attacks.

Sodium alginate protects the esophagus by floating on the stomach contents only when patients are in an upright position. Consequently, alginic acid is effective when patients are sitting or standing, but is of little value when patients lie down.

Patients should be reminded to chew the alginic acid/antacid tablets well to ensure maximum effectiveness. They should also drink a full glass of water after the tablets have been chewed.

Low-dose H_2-receptor Antagonists

Two H_2-receptor antagonists (H_2 blockers) that were available formerly only on prescription are now marketed in low-dose formulations for self-treatment of heartburn, acid indigestion, and sour stomach. The drugs are cimetidine (Tagamet HB) and famotidine (Pepcid AC). They are profiled in Table 1. The other two H_2 blockers are approved for OTC status, but had not yet been marketed at the time of preparation of this lesson. Plans are to

Table 1
H_2 Blocker Products for Self-Treatment of Heartburn, Sour Stomach and Acid Indigestion[1]

Generic Name	Trade Name	Indications(s)	Dose
Cimetidine	Tagamet HB[2] (100mg tablets)	Relief of heartburn, acid indigestion, and sour stomach	Two tablets with water as symptoms occur or as directed. Maximum dose: 4 tablets in 24 hours.
Famotidine	Pepcid AC[2] (10mg tablets)	Relief of heartburn, acid indigestion, and sour stomach	One tablet with water as symptoms occur or as directed.
		Prevention of these symptoms brought on by consuming food and beverages	One tablet one hour before a meal expected to cause symptoms Maximum dose: 2 tablets in 24 hours.

1. At the time of preparation of this lesson, OTC versions of Zantac and Axid had been approved for switch to OTC status, but were yet unmarketed.
2. HB = heartburn; AC = acid controller.

market rantidine as Zantac 75, and nizatidine as Axid 75.

The prescription drug product Tagamet was the first H_2 blocker to be released and has been available since 1977. Pepcid has been marketed since 1985. Safety and efficacy for both drugs in prescription strengths have been well documented. Cimetidine has the distinction of being one of the most widely prescribed drugs of all times.

H_2 blockers are competitive inhibitors of histamine receptors on gastric parietal cells. Histamine is formed continually in the gastric mucosa. As it is released, it binds to H_2 receptors to block the triggering production of hydrochloric acid and increasing acid levels in the stomach. When H_2 blockers bind to the receptors to block histamine attachment, both daytime and nocturnal basal gastric acid secretion, as well as chemically-induced secretion, are reduced and the amount of hydrochloric acid in the stomach decreases. The resultant decreased volume of gastric juice reduces total pepsid production. While gastric reflux may continue to occur in patients who are taking the drugs, the effects of the reflux are much less irritating because the contents of the reflux are less acidic.

Cimetidine. Clinical experience with cimetidine has established an excellent safety record. Adverse drug reactions with oral cimetidine are uncommon. Those that do occur are minor. For example, adverse events that are reported most often are diarrhea and headache; both of these have been reported in only one to three percent of treated patients. An even lower incidence of adverse events is expected with the new 100mg dose.

Like antacids and some other H_2 blockers, cimetidine has the potential for interaction with other drugs. The primary interaction is altering their absorption or clearance. Potentially significant interactions are associated mainly with three drugs: phenytoin, theophylline, and warfarin. Cimetidine, but not at the 100mg dosage level, inhibits their metabolism, resulting in higher blood concentrations.

Famotidine. Unlike cimetidine, famotidine is indicated for prevention of symptoms brought on by consuming food and beverages. The benefit of Pepcid AC taken prophylactically may be the single most important application of the drug for patients who wish to self-treat their symptoms.

An extensive safety profile has emerged with prescription-strength famotidine. This indicates that low-dose famotidine will be well tolerated. In clinical trials of Pepcid AC, the most common adverse effects reported were headache, dizziness, diarrhea, and nausea. most adverse experiences were mild and transient. None occurred at the five percent or higher level.

To date, clinically significant drug interactions have not been noted with famotidine. Unlike cimetidine and rantidine, famotidine does not modify the metabolism of compounds by affecting the hepatic cytochrome P-450 enzyme system.

Famotidine can be administered concomi-

Table 2
Patient Counseling Tips for OTC Histamine-2 (H_2) Receptor Blockers

- Pepcid AC and Tagamet HB are used to relieve heartburn, acid indigestion, and sour stomach. Pepcid AC is also used to prevent these symptoms.
- To relieve symptoms, swallow one tablet with water. Do not chew.
- To prevent symptoms before they occur, swallow one Pepcid AC tablet one hour before eating a meal expected to cause symptoms.
- Do not take more than two tablets in 24 hours, or take the maximum daily dose for more than two consecutive weeks without checking with your doctor.
- Contact your doctor right away if persistent abdominal pain occurs. This may be a warning sign of a more serious condition that needs different treatment.
- This drug is not approved for use in pregnant women or children under the age of 12 unless directed by your doctor.

tantly (but not simultaneously) with antacids, if needed. A placebo-controlled study evaluated whether coadministration of a magnesium-aluminum hydroxide antacid would change the pharmacodynamics of famotidine 10mg or 20mg. The antacid failed to alter the effect of famotidine on intragastric pH.

No adequate and well-controlled studies in pregnant women have been performed. Therefore, Pepcid AC should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

The drug appears to be safe in overdosage. There is no documented evidence of serious toxicity in patients who have taken more than 800mg of famotidine each day for hypersecretory conditions.

Counseling Patients on the Treatment of Heartburn With OTC Products

Most people probably attempt to self-treat heartburn before consulting a physician. Pharmacists, therefore, may be the first health care provider to be consulted by patients with heartburn when they have specific questions. They can outline nonpharmacologic strategies for relief of heartburn and acid indigestion, recommend appropriate OTC therapy, and counsel patients on the proper use of the products.

Before recommending specific therapy, it must be determined whether the patient's heartburn represents simple heartburn that is not associated with serious pathology, or whether the symptom(s) suggest a more serious underlying condition that requires professional evaluation and treatment by a physician. Examples of potentially serious disorders that can mimic heartburn include benign or malignant pancreatic disease, coronary ischemia, gallstones, and peptic ulcer disease. OTC antacids, alginic acid/antacid combination, or H_2 blockers will not harm the individual in the absence of specific contraindications. The danger lies in the drug masking symptoms resulting in delay of treatment of a serious underlying pathology.

Likewise, patients should be considered when selecting an antacid, and alginic acid/antacid combination preparation or a low-dose H_2 blocker for treating occasional mild to moderate symptoms of heartburn in patients whose history does not suggest an underlying organic disorder. These include patient tolerability, the likelihood of compliance, and the use of concomitant medications.

Patients should be questioned about adverse effects experienced with medications used previously for the relief of their symptoms. To illustrate, patients who developed diarrhea while taking an antacid containing magnesium may be better treated with an antacid formulation containing aluminum hydroxide or calcium carbonate. A low-dose H_2 blocker may be even more appropriate. A long-acting agent, such as a low dose H_2 blocker, may be more appropriate than a short-acting antacid for patients who find it difficult to remember to take medications.

Patients should be questioned about other medications being taken. They should be warned to avoid taking antacids within two hours or other drugs.

Patients should be evaluated by a physician if they have been unsuccessful in using nonpharmacologic methods for alleviating heartburn. These include avoiding foods, beverages and drugs that irritate the stomach wall, stimulate secretion of gastric acid, or lessen the tone of the lower esophageal sphincter.

Pharmacists can recommend alternate antacid products whenever patients develop a taste aversion to any product. They can also recommend a concentrated-dosage product if the size of the doses are inconvenient.

Patients may also find the consistency or the large volume of liquid needed to control their symptoms intolerable. Making patients aware of the concept of potency as measured by acid neutralizing capacity (i.e., the number of tablets or volume of liquid) is important. Helping them interpret the label of these products (i.e., sugar, sodium, and other contents) is also important. A review of a patient's other health problems and their prescription and nonprescription drug use will also help fine-tune the antacid choices.

Tips for counseling patients on OTC H_2 receptor blockers may be found in Table 2.

CONTINUING EDUCATION QUIZ

Patient Counseling: Self-Treatment of Heartburn, Part 2: The Products

1. Antacids exert which of the following effects in alleviating heartburn?
   a. Affecting the quantity of acid secreted
   b. Directly binding within inhibiting pepsin
   c. Neutralizing free oxygen ion concentration
   d. Physically blocking access of hydrogen ions to esophageal tissue.

2. The LEAST suitable antacid for treating symptoms of GERD is:
   a. aluminum hydroxide.
   b. calcium carbonate.
   c. magnesium hydroxide.
   d. sodium bicarbonate.

3. The reason that the antacid referred to in question 2 is LEAST appropriate for treating the symptoms of GERD is because it:
   a. causes constipation.
   b. can increase intraabdominal pressure.
   c. leads to hypercalcemia.
   d. increases laxation.

4. Histamine-2 blockers act primarily on gastric:
   a. chief cells.
   b. epithelial cells.
   c. parietal cells.
   d. gastrin-producing cells.

5. There are documented and potentially significant drug interactions between cimetidine and all of the following EXCEPT:
   a. antacids.
   b. phenytoin.
   c. theophylline.
   d. warfarin.

6. Drugs that increase stomach pH to reduce the corrosive effects of gastric juices inhibit the formation of:
   a. pepsin.
   b. gastrin.
   c. secretin.
   d. intrinsic factor.

7. H_2 blockers are approved for OTC sale for self-medication of all of the following symptoms EXCEPT:
   a. acid indigestion.
   b. sour stomach.
   c. heartburn.
   d. GERD.

8. In most instances, two hours should elapse between doses of an antacid and:
   a. tetracycline only.
   b. tetracycline and its derivatives only.
   c. tetracycline and all other antibiotics only.
   d. any prescription drug.

9. The product(s) that has/have received approval for claims of effectiveness in both the relief and the prevention of symptoms brought on by consuming foods and beverages is:
   a. Pepcid AC only.
   b. Tagamet HB only.
   c. Both Pepcid AC and Tagamet HB.
   d. Neither Pepcid AC nor Tagamet HB.

10. To obtain optimal neutralizing action, antacids are best taken approximately 30 minutes:
   a. before meals.
   b. after meals.

1997 Annual Convention of the North Carolina Pharmaceutical Association and affiliated auxiliaries
April 23–27
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CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Patient Counseling: Self-Treatment of Heartburn, Part 2 The Products

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
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Please circle correct answer

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2. a b c d	5. a b c d	8. a b c d
3. a b c d	6. a b c d	9. a b c d
		10. a b

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This easy to use kit consists of 82 color slides, 82 overhead transparencies, 82 xeroxed copies of the slides/transparencies, and a computer disk of the originals to use at the speaker's discretion. The first 30 slides provide general information to begin the presentation, while the remaining slides tackle specific areas such as hypertension, etc. which allows the speaker to tailor the information to fit the needs of the audience.

Currently there are two presentation kits available. These kits are available for use on a two-week loan basis, free of charge. Please call prior to your planned presentation to verify availability. Pharmacists are encouraged to call NCPhA at 1-800-852-7343 for further details.

Jim Hall demonstrates his software to Kim DeLoatch *(center)* and Tina Brock *(right)*, Clinical Assistant Professors at UNC School of Pharmacy

VIP Computer Systems, Inc. is a home grown product of North Carolina. The software was developed under the auspices of 1967 graduate of UNC School of Pharmacy, Jim Hall who is the owner of VIP.

VIP believes in giving excellent support to its users in North Carolina and Jim Hall believes in supporting his alma mater. For many years, VIP has contributed hardware, software, teaching, and support to the UNC School of Pharmacy. The VIP system is used to supply the dispensing lab students a hands-on experience with a system that is widely used in the state.

VIP utilizes state-of-the-art multi-user operating systems such a Xenix and Unix which allows the busy pharmacist to be performing many tasks at one time. For instance, he/she may be printing statements on one screen, insurance reports on another screen, and filling prescriptions on a third screen; all on a single monitor. With VIP you may switch from one screen to another with a single key stroke.

VIP has been serving NC community pharmacists as a software vendor since 1985. Always striving to keep on the leading edge, VIP has recently developed background billing for third parties which will allow pharmacists to send four claims per transaction and to automatically queue up third party claims in the background so that the claims can very quickly be adjudicated while the pharmacist is filling other prescrptions or consulting with the patient. The claims are then automatically printed on the printer when they are paid or rejected.

Even with its many features, VIP is still the simplest pharmacy software to learn and use. Relief pharmacists state that they would rather work on the VIP system than any of the others.

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Special Issue:
Pharmacists Helping Pharmacists—
NC Pharmacists Recovery Network

When things go wrong, as they sometimes will,
When the road you're trudging seems all up hill,
When the funds are low and debts are high,
And you want to smile, but you have to sigh,
When care is pressing you down a bit,
Rest, if you must—but don't you quit.

Life is queer with its twists and turns,
As every one of us sometimes learns,
And many a failure turns about
When he might have won had he stuck it out;
Don't give up, though the pace seems slow—
You might succeed with another blow.

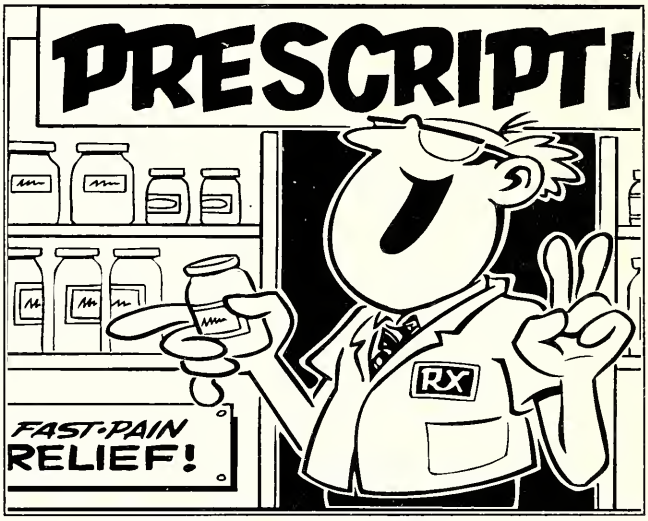
Often the goal is nearer than
It seems to a faint and faltering man,
Often the struggler has given up
When he might have captured the victor's cup.
And he learned too late, when he slipped down,
How close he was to the golden crown.

Success is failure turned inside out—
The silver tint of the clouds of doubt—
And you never can tell how close you are,
It may be near when it seems afar;
So stick to the fight when you're hardest hit—
It's when things seem worst that you mustn't quit.

—Unknown

Highlights
Pharmacist-of-the-Year Dinner

THE RIGHT PRESCRIPTION FOR YOUR BUSINESS...



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Pharmacy Calendar

December

8-12 **ASHP Mid-Year**
New Orleans, LA

25 **Christmas Holiday**
(NCPhA Office Closed)

January

21 **Board of Pharmacy Meeting**

22 **Board of Pharmacy–Reciprocity**

27–28 **Board of Pharmacy Exams**
Chapel Hill

February

TBA **Pharmacy Day in the Legislature**
Raleigh

27–28 **NCSHP Winter Meeting**
Charlotte

18 **Board of Pharmacy Meeting**

March

8–12 **APhA Annual Meeting**
Los Angeles, CA

17 **Board of Pharmacy–Reciprocity**

18 **Board of Pharmacy Meeting**

19 **Socio-Economic Seminar**
Greensboro

April

15 **Board of Pharmacy Meeting**

23–27 **NCPhA Annual Meeting**
Myrtle Beach Hilton
Myrtle Beach, SC

For further calendar information, call NCPhA at 800-852-7343

Albert F. Lockamy Jr.

1996 Pharmacist of the Year

Lockamy, pictured with past recipients of the Pharmacist of the Year Award present during this year's dinner: *left to right,* Ralph Ashworth, Bill Randall, June West, Whit Moose, Jimmy Creech, Mton Skolaut, Jean Provo, Milton Whaley, Rheta Skolaut, Dave Work, Al Lockamy, Dave Claytor, Jack Watts, Teamie West, and John Hood

In return for years of mentorship, Randy Ball arranges for Al to learn the Macarena.

Lockamy pictured with David Cox, Revco Regional Vice President of Operations.

Dinner Held in Honor of Lockamy

On Friday August 23, 1996, friends and family, colleagues and patients, gathered to celebrate Mr. Albert Fulton Lockamy Jr.'s life-long achievements at the honorary Pharmacist-of-the-Year dinner. This year's dinner reception was held in Mr. Lockamy's hometown of Raleigh at the beautiful Raleigh Woman's Club.

The evening's program, sponsored in part by Revco DS, was presided over by NCPhA President Phillip F. Crouch Sr. The invocation was delivered by Reverend Bruce Stanley, NC Methodist Conference, and was followed by a warm welcome from Raleigh's city manager, Mr. Dempsey Benton.

As guests finished their dinner, friends and colleagues of Al's shared memorable occasions they had experienced together. With over 200 guests, the dining room filled with laughter and applause as Randy Ball paid tribute to his long-time mentor, better known as "King Macarena." Yes, Randy and his lovely assistants spent a little time teaching Mr. Lockamy a thing or two, namely the hottest dance trend in America, the Macarena. However, as Al wiggled and wriggled, the consensus was that perhaps he should stick to his rigorous lifestyle of exploring the Outback and sipping daiquiris in Maui.

Speaking of travels, Henry Smith of Farmville reflected on various journeys he experienced with Lockamy. Smith vividly recalls that somehow, someway, Al always seemed to get the most plush accommodations with absolutely breathtaking views while Smith was left sleeping on hard beds in a room with no view. Whatever the situation, Mr. Lockamy came out on top. David Cox, Harold Vann Day, and Tom Joyner also shared kind words of Al as they chuckled and reminisced about times spent with him.

Following the personal tributes to Lockamy, Mitchell W. Watts, immediate past president of the NCPhA presented him with the coveted Mortar-and-Pestle Award. Al's two daughters, Elizabeth and Ginny, and his wife, Ginger joined him on the stage to recognize his many accomplishments as a pharmacist, father, and husband.

NCPhA Immediate Past President Mickey Watts presents the coveted Mortar and Pestle Award to Al Lockamy with wife Ginger at his side.

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One Day at a Time

A Pharmacist Shares Her Plight from Addiction to Abstinence

anonymous

On September 4, 1996, I will have been sober and drug free for six months. Should that day be a cause for celebration? "We think not." For now I celebrate each day. Each night as I close my eyes to sleep, I say a prayer of thanks that I did not abuse any drug or consume any alcohol. I know now that I must embrace each day with a desire not to abuse Rx's or alcohol and in this endeavor I live one day at a time.

I am an alcoholic and an addict.

My drinking and drug abuse began in pharmacy school. Drinking beer and smoking dope was a way to relax after a rigorous day of medicinal chemistry, pharmacokinetics, and pharmacology. This recreational activity was a common comfort that I shared with many of my classmates. I did graduate from pharmacy school and pass the Board exam the first time I took it. I was interviewed and hired by a national drug chain while still in pharmacy school. For the next 18 years I worked for this corporation.

Professionally, I worked to give the best patient care my training and my earnest concern allowed. I was proud to be a pharmacist and I gave my company and all the patients I served 100%.

Personally, I felt that I lived my life from one tragedy to the next. I justified my use of chemicals when my mother died suddenly at age 45 from a myocardial infarction. Her death occurred just prior to my graduation from pharmacy school in 1977. Approximately 2 years after my licensure I married my first husband. This marriage lasted less than a year. I blamed my accelerated drug abuse and drinking on my failed first marriage. My father, who died at age 52, was suffering from cancer at the time my first marriage ended. I rationalized my drinking and drugging as the only means I had to cope.

As my addiction grew, my personal and professional performance deteriorated. In 1981 a suicide attempt and a two-week stay in one of our finer mental institutions brought me before the Board of Pharmacy for a disciplinary hearing. The Board determined that my license be suspended for two years, stayed for five years with conditions, i.e., random urine screens would be done by a Board Inspector. I was not dismissed by my employer—I was demoted from my P-I-C position and I took a large pay cut, but I still had a job.

I did stay clean—that is, of prescription drugs. Urine screens are a real motivator, but I continued to drink.

In 1985 I married my present husband of 11 years. He is also a pharmacist. We have two children—an eight-year-old daughter and a five-year-old son.

I did stay clean–until 1991. Slowly, insidiously, I began to self-medicate again. Phar-

"The truth of the matter is this: I am not a bad person. I'm an alcoholic and a drug addict, and fortunately I have found a way to stay sober—a day at a time."

photo by Dare Blackburn

macy was my life; I advised everyone I knew about their prescriptions. I reasoned "Why shouldn't I take, why shouldn't I know what is best for me?" I was a full time pharmacist-mom/wife. However, I forgot I was only human. Wrongly, I thought I could quit and could stop taking drugs any time. I did not tell anyone of my dilemma. I could not tell anyone, not even my husband. Ashamed that I was not strong enough or smart enough to develop the right strategy to quit, I made many a firm resolve to myself not to take again. But I could not quit. None of the ideas, plans, or methods I came up with worked.

I had developed cravings that could only be satisfied by using. After a while, my drugged life seemed to be my normal life. I was restless, irritable, and discontented until I could experience the ease and comfort that came from taking drugs.

In July of 1995, I quit the job I had for 18 years. I couldn't handle any of the responsibilities of my job, my family, or myself. I was truly powerless over my addiction, and my life was unmanageable. But, I had not hit bottom yet.

I worked occasional relief in a number of different pharmacies. This work served only to allow me to acquire a minimal amount of drugs to support my addiction. During the icy and unbearable cold of the winter of this year, I experienced the hell and horror of withdrawal.

Finally, a discrepancy was discovered in the control substances in one of the pharmacies where I worked relief. I was confronted, and I admitted taking the drugs. I was fired on March 6, 1996. I had finally hit bottom—I would have to tell my husband; I would have to tell the world.

Yes, I was devastated, overwhelmed, in shock, and strangely relieved. I knew I needed help. I could no longer deal with anything alone.

My husband had attended a seminar for C.E. credit the previous week. The program was about chemical dependency in the profession of pharmacy. The pamphlet from the seminar was on the bar in our kitchen. I called the phone number for NCPRN–The North Carolina Pharmacist Recovery Network–on the pamphlet. I told an answering machine my name, my registration number, my phone number, my situation; I have been taking drugs; I have been fired. I need help.

On March 6, 1996, I hit my absolute bottom. On March 8, 1996 I was admitted to a treatment center for alcoholic and addicted health professionals. As I write this, I thank God. I thank God for NCPRN, I thank God for the NCPRN representative who talked to me the very night I talked to the answering machine. I thank God for my husband, who endured this hell with me. I am grateful for my twelve-month stay in a treatment center where I lived and learned about a 12-step program that introduced me to Alcoholics, Narcotics Anonymous and numerous individuals (staff and patients) who are alcoholics and addicts.

I now feel the serenity and peace that comes from dealing with my past. I have surrendered my license to the Board of Pharmacy. I await their notification of a disciplinary hearing. I look forward to the future as I live only one day at a time. I know the job that comes from the gratitude I feel during and after an AA or NA meeting. My job comes from the pure and simple beauty of the answer to my lifelong search. The solution to my addiction: to live by the principles of AA, to know and feel the unity and spiritual growth that comes from the constant thought of those who face the problems I have faced.

This is where I am. I have all the tools; I know the rewards of abstinence. I know that my alcoholism and addiction are incurable diseases. I know I am not alone in my illness. Hope and healing exist if working my 12-step program. I know I can and must ask for help from my fellows, from the members of NCPRN, from my caduceus group, and from AA and NA members. I know help comes through prayer. I can now ask for direction and strength from my higher power to meet any problem I may face.

Although I am aware and ready, I am scared. I must go to meetings, talk to my sponsor, be faithful to my aftercare plan.

I will always be an alcoholic and addict. Complete abstinence is essential.

"It works if you work it; it won't if you don't."

"It works if you work it, one day at a time."

Pharmacists in Recovery

A Look into the North Carolina Pharmacist Recovery Network's Contracts, Procedures, and Outcomes.

by Ed Thomas, student at Campbell University School of Pharmacy

Health care professionals, in general, seem to belong to a category that has a high tendency to be drug dependent. Factors supporting this statement are significant stress, burnout, and easy access to drugs. Recognizing the problem in the field of pharmacy is not a new phenomenon; in 1982 the APhA House of Delegates adopted a new policy that read:

1. APhA believes that pharmacists should not practice while subject to physical or mental impairment due to the influence of drugs—including alcohol—or other causes that might adversely affect their abilities to function properly in their professional capacities.

2. APhA supports establishment of counseling, treatment, prevention and rehabilitation programs for pharmacists and pharmacy students who are subject to physical or mental impairment due to the influence of drugs—including alcohol—or other causes, when such impairment has potential for adversely affecting their abilities to function properly in their professional capacities.

Also in 1983, at the 32nd annual University of Utah School on Alcoholism and Other Drug Dependencies, APhA first sponsored the pharmacy section and continues that sponsorship today. The pharmacists now joined the nurses, physicians, dentists, and other health care professionals in studying the disease of addiction in their own peers.

The University of Utah School of Alcoholism and Other Drug Dependencies is an annual meeting held at the University of Utah in Salt Lake City, Utah. The school is designed to teach students of the program the following: how to identify a drug problem, how to seek treatment for the pharmacists and pharmacy students with drug dependencies, and how to provide the needed relapse prevention and monitoring of the recovering pharmacist. In

1983, when APhA first sponsored the pharmacy section, there were 14 participants from the pharmacy profession, and in 1996 there were more than 220 pharmacists and pharmacy students in this section.

In North Carolina, a special task force was created in 1983 to estimate the number of impaired pharmacists in the state, and also to create solutions if the population of users turned out to be significant. This study was done at the University of North Carolina at Chapel Hill (UNC-CH) School of Pharmacy, and the study's subjects were UNC-CH pharmacy students. One survey question asked if the students surveyed thought there was an alcohol abuse problem within the profession. More than 80% of the third-year students agreed there was a problem. Of the fourth- and fifth-year students that were surveyed, the results were 40% and 58%, respectively.

In 1984, a study was done on pharmacists and pharmacy students in a New England state. This study showed that 46% of the pharmacists and 62% of the pharmacy students reported the use of a controlled substance obtained without a legal prescription. An alarming 19% of the pharmacists and 41% of the students had used these drugs within the past year. The study showed the most frequently used drugs were

"How in the world did this happen? I just kept on asking myself over and over. I was one of the good people. I had a family, a good job, two cars in the garage. What happened here?"

photo by Dare Blackburn

marijuana, stimulants (especially cocaine), tranquilizers, and opiates. This seemed to show that drug use was not localized to prescription drugs, which are easily accessed by pharmacists and students.

The UNC-CH School of Pharmacy wanted to broaden the awareness of alcohol and other drug dependencies (AODD). Therefore, in 1987, a substance abuse program was developed at the school. This program offered an elective course on AODD as well as clerkship sites for all levels of pharmacy students. UNC-CH was the first school in the country to set up a residency program on alcohol and other drug abuse and dependency.

Out of the 1983 North Carolina Task Force on impaired pharmacists, interest in the Pharmacist Recovery Network (PRN) began. The PRN in its earliest form existed under the guidance of Dennis Moore and later dissolved due to lack of support, when he left the state. From there some of the North Carolina associations and pharmacy schools picked the project up and incorporated the program in 1991. This effort was spearheaded by Dan Teat, Tim Ives, Alice Jordan and others up until 1994. The efforts of these individuals and organizations helped the PRN evolve into its current form, with a re-organized Board of Directors in 1995. The present program was reorganized by a concerned group of recovering pharmacists and others to form the present North Carolina Pharmacy Recovery Network (NCPRN). NCPRN is currently being administered by Dave Marley, the organization's program director.

The purpose of NCPRN is to evaluate and assist pharmacists and pharmacy students with the disease of chemical dependency which they may experience in the course of their career. NCPRN's policies and procedures are geared toward not only protecting the impaired pharmacist, but protecting the public as well. NCPRN wants to see pharmacists and pharmacy students back in their career or studies not only clean and sober, but also as competent health care practitioners.

NCPRN is made up of a 13-member board of directors, which includes 11 registered pharmacists and two pharmacy students, which attend either Campbell University School of Pharmacy or UNC-CH School of Pharmacy. The board of directors meets twice a year to see where the organization has gone, and where it is going in the future. A director and assistant director are elected to oversee the day to day operations of the network. There is also a steering committee that meets monthly to discuss cases, and review the operations of NCPRN.

The procedure of getting an impaired pharmacist or pharmacy student under contract is variable and not every case is alike. Factors affecting this process predominantly depend on whether the person is self-referred, referred by a colleague or by the State Board of Pharmacy. The following steps are based on general contract procedures. First, there is a referral by the impaired person or someone else like the Board of Pharmacy. Second, contact is

Table 1. Practice Settings Prior to Recovery

Practice Setting	Number	%
Retail Pharmacy	14	82.3%
Hospital Pharmacy	2	11.7%
Pharmacy Sales	1	5.8%
Unemployed	0	0.0%
Other	0	0.0%

made by a NCPRN intervenor who will determine whether there is sufficient evidence to suggest an addiction problem or not. If the intervenor feels the person is not abusing alcohol or other drugs the director will be notified and the file removed. If there is sufficient evidence to suggest there is a problem, the pharmacist or student will be urged to pursue a professional evaluation at a center referred by NCPRN. When and if treatment is deemed necessary, the NCPRN intervenor can help find an appropriate treatment facility.

At this point a five year contract is signed with NCPRN. After the contract is signed, the person will stay anonymous to the Board of Pharmacy, unless the Board of Pharmacy has referred them to the NCPRN. When this happens, the Board will get all records and updates on the pharmacist or pharmacy student. For five years, the contractee will attend weekly meetings of a 12-step program like Alcoholics Anonymous or Narcotics Anonymous. Monthly reports are submitted by the client, and also the therapist if the contractee is in treatment. Also included in the contract are random urine screens given every three to eight weeks. Four mandatory IPA (International Pharmacists Anonymous) meetings, which are currently held in Greensboro, are also required per year. These are 12-step support meetings designed to address specific pharmacy recovery related issues.

When the five-year contract expires, NCPRN will evaluate the pharmacist to determine if the goals of the contract were met. If they find it was a successful contract, no more action will be required of the client. Another contract can be enacted if NCPRN feels the client has not fully achieved a level of recovery sufficient to practice without being monitored.

NCPRN's contract is based on policies and procedures of other states, such as Texas, Virginia, and Arizona. It is important to note that while many programs share similarities, no two programs are exactly alike; what works in some states may not work in others. NCPRN in its current form has been in place since December of 1994, with its first contract signed in May of 1995. Currently there are 19 contracts signed with the organization. Current issues of NCPRN include achieving a 501C3 recognized IRS non-profit status, which will allow the organization to receive tax deductible contributions. Also, legislation is to go before the North Carolina General Assembly that would attach a nominal fee to the cost of relicensure. This money would cover the day to day cost of operating the PRN. None of the money collected would be spent on treatment, which is always the client's responsibility. This legislation would also give an umbrella of immunity from any civil liability to anyone acting on behalf of NCPRN. One of the most important things happening with the NCPRN is the amount of energy that has been, and will continue to be, spent on educational programs. These seminars and talks are addressed to pharmacists and pharmacy students, and are designed to teach them how to identify and get help for an impaired pharmacist or student. The organization has given lectures to pharmacists for CE (Continuing Education) credits and talked to students at Campbell University School of Pharmacy about pharmaceutical and chemical dependency.

In June of 1996, a questionnaire was sent to 27 recovering pharmacists in the state of North Carolina. These pharmacists were identified by NCPRN and in order to make the questionnaire anonymous, the director of NCPRN addressed and mailed each of the 27 letters. Included in the packet was a 22-question fill-in-the-blank questionnaire, a cover letter including a statement of anonymity, and a self-addressed, stamped envelope to return the questionnaire.

Table 2. Current Practice Settings

Practice Setting	Number	%
Retail Pharmacy	10	58.8%
Hospital Pharmacy	1	5.8%
Pharmacy Sales	1	5.8%
Unemployed	2	11.8%
Other	3	17.8%

Of the 27 questionnaires sent out 17 (63%) were received by September 1, 1996. All of the 63% received were used to conclude the final results. The only exclusion criteria was that they be abstinent from drugs and alcohol for at least three months.

The subjects ranged in age from 30 years to 68 years of age. The mean age of the 17 participants was 44.7 years of age. A breakdown of gender showed 82.4% were males and 17.6% of the participants were women. Both of the gender groups turned out to be 100% Caucasian.

When asked about present employment, 14 (82.4%) of the 17 participants were employed. Of this group, 14.3% of the pharmacists were unemployed due to surrender of their pharmacy licenses to the State Board of Pharmacy. The occupations prior to recovery were retail pharmacy (82.4%), hospital pharmacy (11.8%) and pharmacy sales (5.8%). The current practice settings are retail pharmacy (58.8%), hospital pharmacy (5.8%), pharmacy sales (5.8%), unemployed (11.8%), and other (17.8%). *(See Table 1 & 2)*

When asked if any of the participants lost their right to practice pharmacy 59% responded yes. Out of the 59% that lost rights to practice pharmacy, about 80% surrendered their license to the State Board of Pharmacy. Only one subject had his or her license revoked by the Board due to drug addiction or alcoholism.

There were 52.9% of the whole study population that lost their license at some point. The mean length of time their license was suspended was approximately 16 months. The range was between 4 and 40 months that the pharmacist was without a license to practice pharmacy.

When asked if either one of their parents used drugs or alcohol, 53% of the respondents said at least one parent was an alcoholic or drug addict. A question was also asked about their parent's drug or drugs of choice. Of the 53% of the using parents, only two drug classes emerged: alcohol and tranquilizers. The breakdown between alcohol and tranquilizers was 78% and 33% respectively.

Alcohol, codeine & opiates, cocaine, tranquilizers, marijuana, and amphetamines were the drugs or class of drugs used by the 17 recovering pharmacists in this study. The numbers show that the drug of choice was codeine or opiates, with 65% of the participants reporting using drugs from this class. Alcohol came in second with 41% using this form as a drug of choice. *(See Table 3)*

All of the pharmacists surveyed have been sober for some period of time. The mean duration of sobriety was 60.4 months. The range was from 2 months to about 11.5 years of staying clean and sober. Of the 17, six had never been under contract with NCPRN because there either was no PRN at the time or

Table 3. Drugs of Choice

Drug	Number of Users	Percentage of Users
Codeine or Opiates	11	64.7%
Alcohol	7	41.2%
Cocaine	5	29.4%
Marijuana	4	23.5%
Tranquilizers	3	17.6%
Amphetamines	2	11.8%

they got clean on their own. Ten of the 17 participants were under contract at present or in the past, while one subject reported "other." The range of the contract in months was 1 to 60 months and the mean was 15.5 months.

In looking at how many participants had undergone formal or structured treatment, it was shown that 88% of the subjects did go into some form of drug rehabilitation or treatment program. The range of stay in a treatment center or an outpatient clinic was 8 days to 168 days. The mean number of days was 49.3 days of the 88% who did seek treatment of some form.

Suicide is a subject often brought up when discussing drug or alcoholism. When the question of suicide was asked in the questionnaire, 23.5% of the participants reported attempting suicide at some point in their lives. It was also reported that 17.6% of the subjects had overdosed while working as a pharmacist, but none stated whether or not it was a suicide attempt.

DWI's, drug trafficking, and DEA violations are some of the unlawful things some of these pharmacists did under the influence of drugs or alcohol. Seventy-one % of the subjects reported they had some kind of arrest or conviction due to drugs or alcohol.

The 17 participants were asked if anyone expressed concern about their drug or alcohol problem, prior to their seeking help. Over half, or 65%, said someone had expressed a concern about their use of alcohol or drugs. Twenty-four% said no one had ever verbalized or in any other manner expressed a concern about their alcohol or drug use, while 11% did not respond to the question.

The North Carolina Pharmacy Recovery Network has come a long way from the early 1980s. In the last few years Dave Marley, the director of NCPRN, has taken a loose knit grassroots organization and made it into a more structured society. The results from this study show that the program does work. The recovering pharmacists and pharmacy students present and future have an above average chance of staying clean and sober if they are under contract with NCPRN. The contractees of NCPRN that I talked to are optimistic about getting their lives back together, and becoming responsible and productive professionals in society. With the help and support from other pharmacists, organizations, and schools of pharmacy, we as professionals can break the conspiracy of silence that has for so long hindered impaired pharmacists in North Carolina and other states from getting the help they need. This problem cannot be solved overnight, but with more awareness and involvement in the recovery programs, we as a profession can facilitate impaired pharmacist or pharmacy students getting help.

References available upon request.

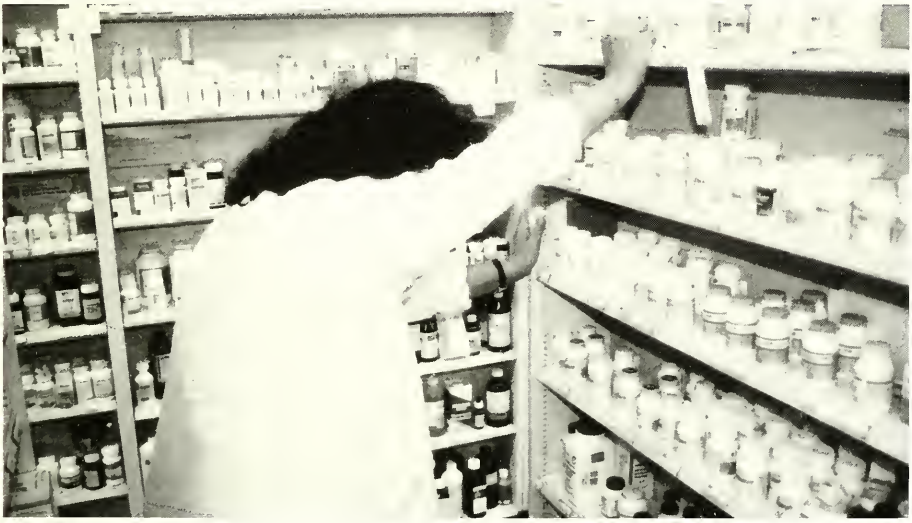

photo by Dave Blackburn

Evaluating Current Pharmacy Students on Use of Alcohol and Other Substances of Abuse

by L.E. Butner, W.R. Godfrey, S.H. Mody, J.W. Sanger, J.A. Wallace, K.T. Cooper, E.Y. Tse, K.M. Wilson, E.A. Shick, and J.H. McDermott, School of Pharmacy, University of North Carolina at Chapel Hill

Alcohol and drug addiction is a serious problem affecting our population today. Although the problem is commonly ignored, a population of practicing pharmacists is dependent on these substances. By detecting problems early in the student's career, with proper awareness and education, drug abuse among pharmacists can hopefully be reduced. One hundred twenty-five first-year B.S. pharmacy students and 134 second-year students were queried using a 50-question survey focusing on the use of alcohol and other substances of abuse. Questions included whether students preferred drinking beer or liquor or did not drink at all; when and why students used these substances; how much they consumed at a given time; what types of drugs students have tried; and whether students have family members with dependency problems. Results showed that 32% of the students do not drink alcohol. Of those that do, 28% have experienced a "blackout." Thirty-two percent of students drink to relieve tension and 9% consume alcohol to deal with a crisis. Only 2.4% and 3% of the first-and second-year students, respectively, think that they may have a problem with alcohol use. Overall, this survey was effective in determining basic information on alcohol and drug use among the pharmacy students at our university.

An impaired pharmacist puts his life as well as the lives of his patients in danger. The degree of confidence and knowledge that the pharmacist possesses is compromised when alcohol or drugs are employed. The safety of the patient is therefore in danger. As future pharmacists, pharmacy students must recognize that a problem with substance abuse exists among members of their profession. They must strive to minimize the risks of abuse and know appropriate ways to help patients, colleagues or health care professionals that have alcohol and/or drug related problems. According to a recent study of recovering pharmacists, alcoholism is a progressive disease that often stems from early experiences with alcohol or other drug use (Bissel, Am Pharm, 1989). Pharmacy students must become aware of the impact that previous or current drinking and drug use may have on their futures. This awareness can be enhanced by the addition of a drug abuse/addiction course in the curriculum.

This survey, administered in the 1994–95 academic year, queries first and second year pharmacy students on their habits of use and/or abuse of alcohol and other substances. Periodic administration of the instrument to future classes will help identify changing or continuing trends.

In March 1995, a survey instrument was distributed to the first and second year baccalaureate students at the School of Pharmacy at the University of North Carolina at Chapel Hill. The classes ranged in size from 160 to 165 students. Approximately 20 minutes were required to answer the 59 question survey. One hundred twenty-five first-year (75%) and 134 (82) second-year students completed and returned the surveys. Responses were recorded on computer-graded bubble sheets. Ten of the 59 questions asked for "all that apply" responses requiring hand tallying. Totals for these 10 questions were checked and rechecked by students on the Substance Abuse and Education Committee. The remaining responses were computer tallied.

Student Demographics

1st PROFESSIONAL YEAR		2nd PROFESSIONAL YEAR	
Gender		*Gender*	
• Female	76%	• Female	74.6%
• Male	24%	• Male	25.4%
Marital Status		*Marital Status*	
• Single	91.2%	• Single	86.6%
• Married	7.2%	• Married	7.5%
• Divorced	1.6%	• Divorced	6%
Children		*Children*	
• Yes	4.5%	• Yes	12.8%
• No	95.5%	• No	87.2%

Drinking Habits

Drinks/occasion		*Drinks/occasion*	
• 1-2 drinks	33.6%	• 1-2 drinks	34.4%
• 3 or more	34.4%	• 3 or more	20.1%
• abstain	32.0%	• abstain	25.4%
Blackouts/amnesia while drinking		*Blackouts/amnesia while drinking*	
• Yes	24%	• Yes	32.8%
• No	43.2%	• No	41.8%
Drink alone		*Drink alone*	
• Yes	12.2%	• Yes	10.4%
• No	87.0%	• No	88.1%
Drink while studying		*Drink while studying*	
• Yes	10.7%	• Yes	8.2%
• No	89.3%	• No	90.3%
EtOH consumption since entering pharmacy school		*EtOH consumption since entering pharmacy school*	
• Increased	12.8%	• Increased	22.6%
• Decreased	31.2%	• Decreased	26.3%
• About the same	24%	• About the same	28.6%

Problems From Alcohol Use/Abuse

1st PROFESSIONAL YEAR		2nd PROFESSIONAL YEAR	
• Damaged personal relationships	8.2%	• Damaged personal relationships	10.4%
• Missed classes	23.0%	• Missed classes	18.7%
• Missed work	3.2%	• Missed work	1.5%
• Lowered grades	1.6%	• Lowered grades	0.7%
• Money problems	4.8%	• Money problems	3.0%

Reasons for Alcohol Consumption

• Social gesture	61.6%	• Social gesture	65.7%
• Relieve tension	33.6%	• Relieve tension	24.9%
• Forget problems	8%	• Forget problems	11.3%
• Alleviate loneliness or depression	6.4%	• Alleviate loneliness or depression	2.9%
• Enjoy taste	45%	• Enjoy taste	48.8%
• Social improvement	23.7%	• Social improvement	11.2%
• Crisis management	10.5%	• Crisis management	6.6%
• Get drunk	18.6%	• Get drunk	26.2%

Recreational Drug Use

Students were asked similar questions pertaining to their experience with psychoactive drugs. Results showed that 74.4% and 63.2% of first- and second-year students, respectively, have abstained from drug use. Of those who use drugs, marijuana is the drug of choice. Other recreational drugs include hashish and amphetamines.

Since entering pharmacy school, 7.3% of first-year students who use drugs have decreased their usage while 3.2% have made no change. For second-year students using drugs, 3.8% have increased usage, 9.1% have decreased their use, and 7.6% have not changed their habits. Approximately 0.8% of first-year students and 1.5% of second-year students have used recreational drugs while studying.

Reasons for using drugs were similar to those for using alcohol and included peer pressure and relief of tension. Forgetting problems and managing crises were other reasons students gave for illicit drug use. Interestingly, in second-year students, "getting high" was the primary reason for using drugs (6.1%).

When queried whether histories of drug abuse or chemical dependency other than alcoholism existed in the students' families, 6.5% of first-year students and 10.6% of second year students responded "yes." However, only 0.8% and 1.5% of first- and second-year students, respectively, feel they currently have a problem with drugs. Ninety-three percent of first-year students and 90.2% of second-year students said that they would seek help if they had a problem with drug abuse or chemical dependency.

Responses to questions about drugs of abuse were similar to those regarding alcohol consumption. However, a significantly smaller number of students have experience with recreational drugs when compared with alcohol.

What Can Result From One Phone Call?

by David Marley, R.Ph. Program Director, NC Pharmacist Recovery Network

For the last year and a half, I have served as the Program Director for the North Carolina Pharmacist Recovery Network, currently a volunteer position, run out of my spare bedroom that has been converted into an office. Every night upon returning from work, I go upstairs to check the day's messages. Most days this simply involves verifying that all the clients called in for their urine screen.

Some days, though, the light is blinking on the confidential phone line. This usually means that a pharmacist is in trouble, or that someone is seeking help. As I reach to play the message, my mind is already racing. How bad is it? Is there a suicide risk? Do they have insurance? Is the employer aware? Is the Board of Pharmacy aware? The DEA? What about detox, withdrawal, or overdose? Is there family support?

As I listen to the message, I can hear the pain in the person's voice. When I return the call, the emotions on the other end of the phone line vary from anger and denial to a numbed sense of relief. In every case, though, the emotion that comes through the strongest is fear. Fear of the uncertain future, fear of a troubled past, but most of all a fear that they are alone not only in their pain, but alone in their profession.

For too long we as a profession remained quiet when it came to dealing with chemical dependency within the profession. This "conspiracy of silence" led many impaired pharmacists to think that they were alone in their disease. With nowhere to turn, many succumbed to their disease in the form of jails, institutions, and death.

Fortunately, today there is another option. By picking up the phone and calling the "PRN," an impaired pharmacist, or friend of an impaired pharmacist can call and get help. With one phone call, an impaired pharmacist can find out that he/she is not alone. They will hear that they are not bad or immoral people, but rather people who have a disease. They will hear that with proper treatment, they can go on to live productive lives, and in most cases, will be able to return to the profession they love so much. Unfortunately, this phone call doesn't usually happen until the job or the license is in danger, or lost.

Many pharmacists still mistakenly believe that addiction is not a problem for pharmacists, that our knowledge about drugs somehow protects us from this disease. It wasn't until recently that schools of pharmacy began addressing chemical dependency as a problem within the profession. Many pharmacy schools still don't have a policy in place for dealing with addicted pharmacy students.

One of the missions of the North Carolina Pharmacist Recovery Network is to provide education on the disease of addiction to both pharmacists and pharmacy students. It is our hope that this issue of the *Carolina Journal of Pharmacy* will not only enlighten the pharmacists of this state, but also reach at least one impaired pharmacist who thinks he/she is alone with nowhere to turn.

My Own Story

When I decided to become a pharmacist I never thought that I might become a drug addict and alcoholic as well. In fact, I thought my profession made it highly unlikely, if not impossible for me, of all people, to have a

substance abuse problem. I was too smart, middle-class, and from a "nice" family. I learned later that addiction did happen to people like me.

I first drank alcohol as a young teenager and again when I was in high school. I really didn't think anything of it. I smoked pot for the first time in high school, too. Looking back, I should have known that I was different from other people in that once I smoked it, I loved it and did it every day for the next seven years or so. I was never without it and always surrounded myself with people who smoked it, too. In college I started experimenting with other drugs and liked them, too. At that point I thought I was going through a phase that all young adults went through of experimenting and "discovering" one's self. I never for one minute thought that I had a substance abuse problem. It did occur to me in pharmacy school that I would soon be a respected pharmacist and that I should not be taking drugs but I really felt that I could quit when the time came.

For any other pharmacist out there who thinks they may have a problem, go get help!

Once I became licensed my drug use almost instantly escalated. With the escalation I also quickly learned to rationalize my use. I deserved it. I could handle it, nobody will know, etc. Shortly thereafter I realized I had a problem but I was always very good at rationalizing it and thought I was keeping it under control. I realize now that excuses and rationalizations are part of the disease of addiction. Addiction is like no other disease in that it's the only one that tells you that you don't have it. I was also very ashamed and certain that I was the only other pharmacist who had this disease. After all, pharmacists should not be drug addicts! Drug addicts were homeless, dirty, and stole to support their habit.

Well, I stole whenever possible to feed my habit. When that was no longer possible, I became a "doctor shopper" and got prescriptions to continue using. Now it was OK, even legal! Very quickly I advanced to the point of blacking out as a result of drinking and taking drugs in combination. I would swear off from time to time, but whenever I returned to using, things got worse and worse. I managed to use and drink over a period of years. I began to lose friends, alienate family, and my work suffered. I tried counseling, treatment on a number of occasions, psychiatrists, anything to get my drinking and drug use under control. I could not imagine going through life without being able to—at the very least—drink in moderation.

It took me a few more years of pain, suffering, and humiliation to find out that if you have the disease of addiction, there is no such thing as moderation. I tried it over and over with the same results. Every time I drank or took drugs, I lost control and ended up full of remorse, shame, and guilt. Finally, when I had enough, I gave up. It took proving to myself, even though I had proven it to just about every other significant person in my life long ago, that I was an alcoholic and drug addict and that drinking and using drugs in any amount were not possible for me.

I have also learned that having the disease of addiction is not something to be ashamed of, just like having cancer or heart disease. However, if I don't do anything about it, I have a lot to be ashamed of. Now that I know without a doubt that I have this disease, I have to take full responsibility for treating it, along with the help of professionals. It's something I have to do every day for the rest of my life.

For any other pharmacist out there who thinks they may have a problem, go get help! This is not something you can do on your own! And there is a lot of help out there. You are not the only one out there with this disease. Addiction strikes pharmacists just as it does nurses, physicians, and every other profession. If you don't get help, things only get worse. If you do, they only get better.

Rx Carolina Journal of Pharmacy

Your prescription for professional advancement

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—The Journal staff

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Age: ❒ 18-24 ❒ 25-34 ❒ 35-44
❒ 45-54 ❒ 55-64 ❒ over 64

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JEAN DOUGLAS REPRESENTS NORTH CAROLINA CENTER FOR PHARMACEUTICAL CARE AT HEARING

Following is the statement of Jean Douglas before the North Carolina Health Care Reform Commission hearing on August 21, 1996.

I would like to commend the members of this commission, for your efforts to recognize and address the issues that are most important to those involved in health care, and to thank you for allowing me to describe how pharmacists are re-engineering their practices to better manage the medications of our patients. I am Jean Douglas, the assistant director of pharmacy services for clinical practice at the Moses H. Cone Memorial Hospital in Greensboro. I am also immediate past Chair of the North Carolina Center for Pharmaceutical Care, on whose behalf I will speak today. The North Carolina Center for Pharmaceutical Care represents the major pharmacy practitioner organizations in our state.

I know that during the course of this hearing you will hear many statistics and ideas for health care reform. For just a moment, I would like to put a human face on the kinds of problems pharmacists see every day.

A patient unable to take the oral medication warfarin that was prescribed to keep blood clots from forming in his legs had to be admitted to receive the parenteral drug heparin. He would need this drug for the rest of his life. It was not long before the patient asked when he could go home. His medical team of cardiologists asked the pharmacist dosing his heparin, what options were available. Infusions of heparin have been done in the home, but the risk of bleeding is very high. His pharmacist suggested subcutaneous injections of unfractionated heparin that the patient could give himself. The pharmacist agreed to continue to monitor his patient and direct his dosing after he went home. The patient went home and is doing well. The pharmacist, who was able to keep his patient on a life-saving medication at home at a significant cost savings, has not been compensated for his expertise, because of current reimbursement procedures.

In a nearby community, a pharmacist developing an asthma care program and a collaborative relationship with several local physicians, has made a significant impact on the care his patients receive. When a new asthmatic is referred to him, he sets up an appointment with the patient. The protocol which the referring physician has approved for his patient is then initiated by the pharmacist. The patient is taught to use various inhalers that must be utilized to treat his condition and how to perform peak flow monitoring that serves as a marker for his disease. This pharmacist saved one of his patients from an emergency department visit. The patient came by his pharmacy on her way to the emergency department. The pharmacist initiated the plan of care in the asthma protocol after communicating with her physician. Suffering from an asthma attack and time missed from work were prevented for the patient while both resource utilization and money were saved for the health care system.

A pharmacist who specializes in diabetes, makes positive patient outcomes for those patients who are referred by physicians who know her effectiveness in this area of medicine every day. Because of her knowledge, she helps patients take control of their disease to prevent complications from occurring. Because of her skill in applying her

drug knowledge, she helps patients take control of their disease to prevent complications from occurring. Because of her skill in applying her drug knowledge, she has gained national recognition.

The impact of chronic diseases is not only devastating for the quality of life, it's costly as well. In each of the three scenarios, pharmacists are providing services to patients at little or no costs. Without reimbursement for these services, these pharmacists' contributions in reducing drug-related problems and helping patients stay healthier and out of emergency rooms will be lost. What is really needed is for more pharmacists to provide these types of patient services, known as pharmaceutical care. Pharmacists are the most accessible health care professionals and could identify many of the undiagnosed problems that are not caught in time to prevent the ravages of chronic disease.

Three landmark studies were released last year showing the need for pharmacists to expand their role as providers of health care.

Researchers at the University of Arizona found health care costs from drug-related problems are $76.6 billion annually. Seventy-three billion dollars were spent on prescription drugs in 1994. This means that for every $1 being spent purchasing drug products, $1 is spent on the treatment of medication-related problems.

Researchers from the Adverse Drug Event Prevention Study in Boston documented the problems of inappropriate drug use as causing 6% of all admissions to hospitals today.

A pharmacist in a clinical community pharmacy practice in Tennessee found a physician-directed, pharmacist-managed asthma program decreased emergency department visits by 80%.

These citations published in distinguished medical journals point out that pharmacists are correct in re-engineering their practice to more direct patient care.

You might ask, "Why aren't pharmacists just doing more of this type of practice already? And providing the benefits to patients now, as evidenced in over 50 studies with high benefit to cost ratios?"

Yes, pharmacists are educated and knowledgeable about medications. Many have advanced professional degrees like the Doctor of Pharmacy degree and have participated in pharmacy residencies where an additional eight to 10 clinical rotations have broadened their pharmacy practice skills. Disease management programs are also available for those wanting a specialized field of study.

Both schools of pharmacy in North Carolina offer the Pharm.D. degree. It takes six to 7 years to complete this degree at a cost of $60,000 to $75,000.

There are 11 residency programs for pharmacists in North Carolina. These are one year in length, and the pharmacist receives partial salary to get experience, practice, and competence.

The North Carolina Area Health Education Center Pharmacy Programs offer ongoing specialized education.

This new pharmacists' role is a "winner" for many reasons. But back to the question—"why aren't pharmacists just doing this practice routinely now?" The answer is simply ... lack of reimbursement for this.

Current pharmacy reimbursement is for the drug product and a dispensing fee which includes patient education and packaging for the drug that was dispensed. Most efforts to manage drug costs have focused on cutting reimbursement, not in providing incentives to minimize the cost of drug related therapy problems. Focus on reducing the whole health care dollar, instead of just the pharmacy piece of the pie, which is just 8%.

The North Carolina Center for Pharmaceutical Care was formed by pharmacists working to "jump start" this new practice in our state. Major initiatives include a research project to document the pharmacists' new practice role in treating asthma, diabetes and hypertension, and the prevention of drug-related problems.

We need the North Carolina Health Care

Reform Commission to be aware of our efforts and to partner with us as we both seek to provide better health care to our patients and the citizens of this state.

You can recommend expanding reimbursement options for pharmacists to provide pharmaceutical care to patients. Pharmacists can help the $76.6 billion spent annually by the nation or $1.5 billion as North Carolina's part of drug-related problems, help patients understand their medications and know when to seek further medical care for new problems and reduce the overall health care costs.

We seek your advice as to how we can best serve the citizens of North Carolina. Pharmacists make significant contributions each day as a primary gateway to health care. With adequate reimbursement, we can prevent many of the costly drug-related problems afflicting patients today.

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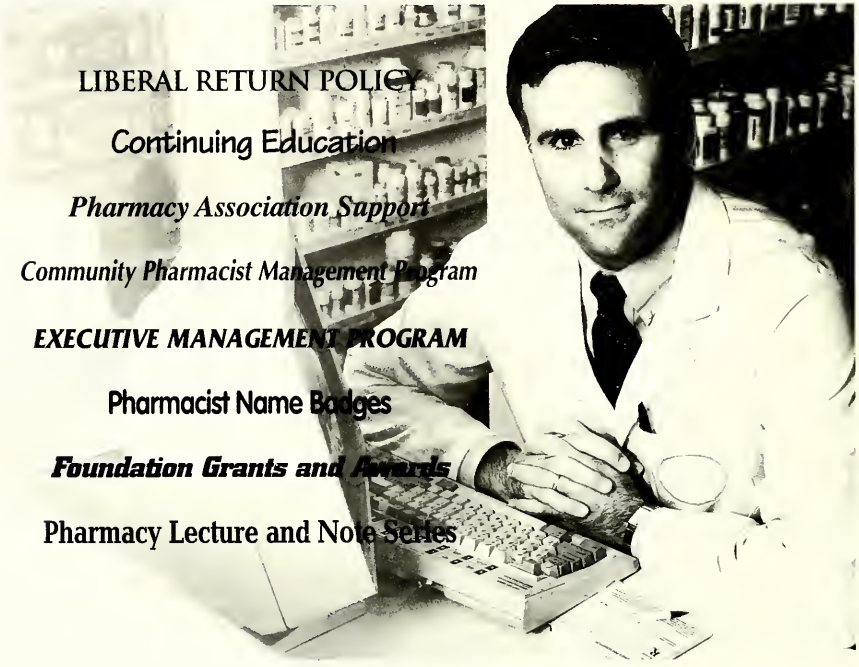

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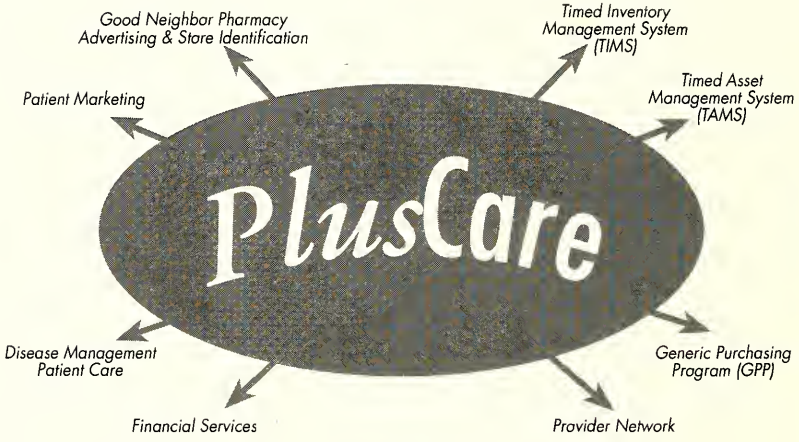

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PATIENT COUNSELING ON NEW DRUGS: TRAMADOL

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Goals

The goals of this lesson are to identify and discuss new drugs introduced to the marketplace during 1996, with special emphasis given to the new centrally acting analgesic tramadol, comparing it to available narcotic and nonsteroidal analgesics.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. exhibit knowledge of the pharmacologic classification and therapeutic considerations for tramadol and currently available analgesics;
2. select from a list, the indications, mechanisms of action, benefits, and limitations of tramadol and narcotic analgesics;
3. identify adverse effects, major toxicities, and drug interactions associated with tramadol as compared to previously available analgesics; and,
4. demonstrate an ability to counsel patients on tramadol.

Function and Mechanism of Pain Perception

Pain is one of the most common and important symptoms, and yet, it is one of the most difficult to treat. Pain has been described as the outcome of activation of electrical activity in afferent neurons by a number of stimuli including mechanical, thermal and chemical agents.

These neurons have sensory endings in peripheral tissues. They are different from other mechanical (touch) and thermal (heat/cold) receptors in that they have a higher threshold for firing and sending impulses to the brain. They are activated by stimulation sufficient to cause some degree of tissue damage. The high threshold of pain receptors leads to the ability to override minor pain by rubbing the area (mechanical stimulation) or applying cold or heat (thermal stimulation).

Once pain impulses leave the periphery, they enter the central nervous system. It appears that there are two major pathways for pain within the CNS: the afferent (incoming) pathway and the efferent (descending) pathway.

Table 1
New Centrally Acting Analgesic

Generic	Trade Name	Availability	Dosage Regimen
Tramadol	Ultram	50mg tablet	50-100mg every 4-6 hours

The afferent pathway is objective in that it tells us we are experiencing pain, as well as the intensity and the location (however, pain is sometimes referred to another area of the body as in angina pectoris). The efferent pathway is subjective in that it determines our emotional response to pain.

These two pathways determine how we perceive pain and how we will react to it. It is believed that the non-opioid analgesics act mainly on the afferent pathway and the opioids act to greatest extent on the efferent pathway.

Many endogenous chemicals are involved in the sensation we perceive as pain. Among them are bradykinin, cholecystokinin, dynorphin, endorphins, enkephalins, glutamate, interleukins, leukotrienes, norepinephrine, prostaglandins, serotonin, somatostatin, substance P, vasoactive intestinal polypeptide, and possibly hundreds of other proposed but not yet discovered substances.

Pain has been classified a number of ways including by its components: discriminating and alerting.

The discriminating or localized component helps the person determine the nature, intensity and location of pain. This type of pain is useful in diagnosing the underlying condition causing it. The alerting or affective component interrupts the person's activity and changes his or her behavior because it demands attention.

This component is also a great learning tool since most of us will avoid activity that has previously caused pain. This latter component is critical to our intuitive survival mechanisms. However, when pain becomes chronic, unremitting and unalleviated, serious pathopsychologic changes can occur.

Pain has been categorized into three additional groups: acute pain in which the cause can be identified (i.e., broken/fractured bones, lacerations, trauma); chronic pain of known cause (i.e., cancer pain); and chronic pain of unknown cause.

Still another classification of pain is somatic and visceral. Somatic pain describes an intense, sharp and localized sensation such as a response from an insect sting. It is sometimes referred to as a "stinging sensation." Visceral pain is characterized as dull, aching and diffuse. It is sometimes referred to as a "burning sensation."

Opioid Receptor Function

Opioids act by reacting chemically with specific receptor sites on CNS cells. There are currently three known subgroups of receptors and 18 endogenous peptides with opioid-like activity. More will certainly be uncovered in the future. The endogenously produced peptides that are components of pain are thought to act in the efferent pathways, i.e., our response to the sensation of pain. Of the 18 peptides discovered so far, the two most important groups are called endorphins and enkephalins. Opioid analgesics mimic their activity.

The three definitively expressed opioid receptors have been labeled delta, kappa, and mu. A fourth possible, but not yet universally accepted, opioid receptor has been labeled sigma. Of these receptors, the mu subgroup seems to be the most important for the action of opioids and tramadol.

Besides analgesia, the mu receptors also mediate euphoria, miosis, and respiratory depression. The kappa receptors, while they do appear to be capable of producing analgesia at the spinal level, are not considered to be of prime importance for the action of analgesics. Instead, they mediate sedation and miosis.

Delta receptors have a very high affinity for endogenous enkephalins, but not exogenously administered opioids. While densely present in the limbic system, the dorsal horn of the

spinal cord and several areas in the brain, the association of delta receptors with analgesic activity has not yet been determined. Delta receptors do mediate hypotension, miosis, dysphoria and hallucinations.

The function of sigma receptors is still unknown. They may be the primary receptor for endogenous enkephalins, but they also appear to react with other chemicals besides opioid analgesics. At one time it was believed that these receptors accounted for the anxiety, hallucinations and bad dreams associated with some opioids.

This leaves us with the current theory that mu receptors are the primary subgroup of opioid receptors. Opioid analgesics and tramadol have affinity for and intrinsic activity with mu receptors, and these receptors are considered to be the point of activity for pain relief with these drugs.

Mechanism of Action of Opioids

The term opioid refers to any substance that produces morphine-like effects that can be blocked by narcotic antagonists such as naloxone. Morphine is derived from opium, hence the name opioid. Today, however, there are a number of synthetic narcotic analgesics such as meperidine and methadone that are also classified as opioids.

The term opioid has also been assigned to the receptors that morphine and morphine-like drugs attach to in the body, as described above. This is because these receptors were discovered before endorphins, enkephalins and similar peptides.

Opioids attach to and stimulate opioid receptors thereby altering the individual's perception of pain. They are considered to be the agents of choice for moderate to severe pain. Their major drawbacks are sedation, constipation, tolerance, and possibly addiction.

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) Mechanism

A number of chemicals are involved in stimulating pain nerve impulses and transmitting them to the brain. Among these are bradykinin and related peptides which cause the release of several prostaglandins which, in turn, greatly enhance their direct action on nerve endings.

Prostaglandins themselves do not cause pain. They enhance the pain-producing effects of other chemicals such as bradykinin, serotonin, and histamine. Histamine, however, is more involved in inflammation and itching than pain.

The major analgesic action of NSAIDs (as well as acetaminophen and aspirin) is inhibition of cyclooxygenase, an enzyme involved in prostaglandin synthesis. Therefore, they decrease sensitization of pain pathways.

Acetaminophen (APAP), aspirin (ASA) and NSAIDs are considered to be agents of choice for mild to moderate pain. While some patients believe they get better relief from one agent versus another, across the board they are equally effective. Side effects can be a concern with these analgesics. With ASA and NSAIDs, gastric upset and ulceration are major adverse effects in susceptible persons. Long term use of APAP can cause renal dysfunction and hepatic damage in susceptible persons.

Another potential problem in the treatment of pain with these drugs is that APAP, ASA, and most NSAIDs have an analgesic dosage ceiling, above which they provide no additional pain relief. For APAP and ASA, the ceiling is between 650 and 1300mg. Some NSAIDs have a higher analgesic ceiling. For example, ketorolac (Toradol) can equal the effects of oral narcotics in analgesic activity.

Combination Analgesic Products and Other Drugs Used to Treat Pain

Since they act by totally different mechanisms, it is rational to use combination products containing opioid and nonopioid analgesics. This can actually improve pain relief by maintaining the nonopioid component at or below its analgesic ceiling while reducing the need to escalate the opioid dosage.

These combinations are among the few examples (along with diuretic/antihypertensive combinations) of products that exhibit true synergistic action useful in therapeutics.

Other analgesic combinations approved by FDA include meprobamate/ASA and

chlorzoxazone/APAP for muscle spasms causing pain; butalbital/ASA or APAP for tension headache; antihistamines/ASA or APAP/mild diuretic for premenstrual pain; and antihistamines/ASA or APAP for sleeplessness associated with pain.

Although caffeine has been an ingredient in analgesic products for years, it has not yet been proven to be effective in pain relief.

Other drugs used to treat pain include tricyclic antidepressants (TCAs) and anticonvulsants. The TCAs (usually amitriptyline or imipramine) are effective in treating neuropathic pain (pain associated with problems in the neurons) which is resistant to opioids, diabetic neuropathy (nerve damage caused by the complications of diabetes) and postherpetic neuralgia (pain caused by herpes viruses residing in neurons, especially following flare-ups of shingles).

Anticonvulsants, in spite of the fact that they have no discernible analgesic effects, are effective in treating some chronic pain conditions. Carbamazepine is considered to be the agent of choice in treating trigeminal neuralgia (tic douloureux), i.e., severe pain along the bridge of the nose and upward into the crown of the head.

Tramadol

Tramadol {tram-A-doll}, (Ultram) {UHL-tram} is the first of a new type of centrally acting analgesics. It is also the first analgesic that is not an NSAID to be introduced to the marketplace in over 10 years. It is approved for use in treating moderate to moderately severe pain. Tramadol shares some chemical structural configurations with morphine.

Tramadol had been available in Europe since 1977 in tablet, capsule, oral drop, injection, and suppository dosage forms. Developed in Germany, it is currently the most widely prescribed analgesic there.

Mechanism of Action. In some ways tramadol acts similarly to opioids. It has been shown to bind with mu, kappa, and delta receptors, but its analgesic activity is linked to it being a weak agonist to the mu subtype of opioid receptors. Like opioids, tramadol alters the person's perception of pain. It also enhances the action of norepinephrine and serotonin released in response to pain stimuli. Since these neurotransmitters are involved in the thought process, it is believed that this action also modifies how the person perceives the pain.

It has been stated that tramadol prevents pain impulses from traveling to the brain, and enhances the body's natural mechanism for modifying how the brain monitors pain.

It is known that tramadol does not inhibit the

Table 2
Patient Counseling Tips for Ultram

- Ultram is used to relieve pain.
- Ultram may be taken without regard to meals. If it upsets your stomach, take it with food. It is best to either always take the dose on an empty stomach or with food.
- It is important that Ultram be taken exactly as prescribed to maximize its effects.
- Some patients have experienced dizziness, blurred vision or drowsiness from this medication. If you do, be careful driving or performing hazardous tasks. Alcoholic beverages can increase the drowsiness effect.
- Some patients experience constipation after taking Ultram for a few days. Increasing the amount of bulk fiber in your diet (i.e., bran, psyllium or fresh fruits) and drinking lots of fluids can help prevent this.
- Do not take nonprescription pain relievers while taking this medication without checking with your doctor.
- There are few side effects reported with Ultram. However, inform your doctor if you experience dizziness, drowsiness or lightheadedness, nausea or vomiting, difficult breathing, excitement, unusual heartbeat, profuse sweating, skin rash, or any other bothersome or unusual side effect.

production of prostaglandins or affect bradykinin. This is used in marketing the drug by positioning it as an analgesic that does not cause gastrointestinal upset or ulceration, as do the NSAIDs.

It has also been determined that tramadol's affinity for mu receptors is 10 times less than that of codeine and 6000 times less than morphine. While the manufacturer is not permitted to promote tramadol as being nonaddicting, it is not classified as a drug with abuse potential and it is not covered under the Controlled Substance Act. Also, manufacturers may not promote it as having enhanced potency over other agents. Ortho McNeil will monitor its sales to watch for possible abuse.

Tramadol has been used in more than 39 million patients and there are only 152 reported cases of possible abuse. Most of these persons were abusing other drugs as well.

Drug Interactions. Since tramadol affects norepinephrine levels in the synaptic areas, it should not be given concurrently with monoamine oxidase inhibitors. The manufacturer contraindicates the use of Ultram in patients acutely intoxicated with alcohol, hypnotics, centrally acting analgesics, opioid or psychotropic drugs. The result could be increased CNS effects.

It does not appear that tramadol would be involved in drug interactions based on displacement of other drugs from protein binding because it does not have significant affinity for protein binding sites.

The significance is not known at this time, but tramadol may be metabolized to some extent by the P-450IID6 isozyme of the cytochrome P-450 enzyme system. It does exhibit competitive inhibition by quinidine for this pathway, but more time and studies are needed to determine the significance of this.

Side Effects. Unlike opioids, tramadol has not produced significant respiratory depression, nor has tolerance been reported.

Adverse effects were reported for tramadol in clinical trials differently than most drugs since it is considered to be unethical to deprive a patient in pain from receiving an analgesic merely to complete a drug study. Therefore, adverse effects are reported for tramadol compared to acetaminophen 325mg/codeine 30mg (APAP/COD) and aspirin 325mg/codeine 30mg (ASA/COD).

Those occurring above the 5 percent level during the first seven days of treatment with tramadol (mean daily dose = 250mg) were dizziness 26 percent, compared to 26 percent for APAP/COD and 16 percent for ASA/COD; nausea 24 percent versus 29 and 35 percent; constipation 24 percent versus 51 and 34 percent; headache 18 percent versus 17 and 7 percent; somnolence 16 percent versus 24 and 19 percent; and vomiting 9 percent versus 5 and 6 percent.

Two other studies with the mean dose of 150mg per day showed only nausea (6 percent) and dizziness (5 percent) at the 5 percent or higher level. This leads to the recommendation that patients be started on tramadol at 50mg three times a day. They can then be titrated upward until pain is relieved or the 400mg per day dosage regimen is reached to reduce the occurrence or magnitude of adverse effects.

Dosage. The usual adult dosage for tramadol is 50 to 100mg three to four times a day, at six to eight hour intervals. Most patients, including those with cancer, reportedly respond to these doses. The maximal daily dose of tramadol is 400mg.

While age is not a definitive criterion for dosing tramadol, some geriatric patients with renal or hepatic impairment may require lower doses. The recommended daily dose for these patients is 300mg, in divided doses as listed above.

For patients with compromised renal function, the recommended dosing is 50 to 100mg every 12 hours, and for patients with cirrhosis, 50mg every 12 hours.

Patient Counseling

As with any analgesic, patients should be advised to take their medication as directed by their doctors. Taking more than the prescribed dose can lead to toxicity and not taking enough can prevent attainment of the desired thera-

peutic effect. If pain is not relieved with the prescribed dosage, patients should inform their doctor so the dose can be adjusted or another agent selected.

Ultram tablets can be taken with or without food. Taking the dose with a glass of water or other fluid can enhance its onset of action and reduce potential gastric action and reduce potential gastric upset (which is rare and significantly less than that caused by NSAIDs).

As with any drug acting on the CNS, Ultram may cause dizziness or drowsiness and impair the patient's mental or physical abilities. This may affect his ability to drive or operate hazardous equipment.

Additional counseling information can be found in Table 2.

CONTINUING EDUCATION QUIZ

Patient Counseling on New Drugs: Tramadol

1. Somatic pain describes all of the following sensations EXCEPT:
   a. intense
   b. dull
   c. localized
   d. sharp

2. All of the following are known to be opioid receptors EXCEPT:
   a. alpha
   b. delta
   c. kappa
   d. mu

3. Which of the following statements about tramadol is true?
   a. It alters the perception of pain.
   b. It is a controlled substance.
   c. It causes significant gastric irritation.
   d. It affects bradykinin production.

4. Which of the following sensory endings in peripheral tissues has the highest threshold for firing and sending impulses to the brain?
   a. Cold
   b. Touch
   c. Pain
   d. Heat

5. The major analgesic action of the nonsteroidal anti-inflammatory drugs is due to their inhibiting:
   a. bradykinin.
   b. cyclooxygenase.
   c. histamine.
   d. norepinephrine.

6. The afferent pathway for pain tells us all of the following concepts EXCEPT:
   a. we are experiencing pain.
   b. the intensity of the pain.
   c. the location of the pain.
   d. our emotional response to pain.

7. Tramadol acts by affecting all of the following components of pain EXCEPT:
   a. norepinephrine.
   b. mu receptors.
   c. prostaglandins.
   d. serotonin.

8. Which of the following is an appropriate dosage regimen for tramadol?
   a. 10mg every 12 hours
   b. 30mg every 8 hours
   c. 50mg every 6 hours
   d. 300mg every 4 hours

9. Tramadol acts on the primary subgroup of opioid receptors which are referred to as the:
a. alpha receptors.
b. beta receptors.
c. gamma receptors.
d. mu receptors.

10. The non-opioid analgesics reportedly act mainly on the:
a. afferent pain pathway.
b. efferent pain pathway.

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CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Patient Counseling on New Drugs: Tramadol

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- If more than two (2) questions are answered incorrectly, the test is failed. You will be given one (1) opportunity to submit a second answer sheet.

Please circle correct answer

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3. a b c d	6. a b c d	9. a b c d
		10. a b

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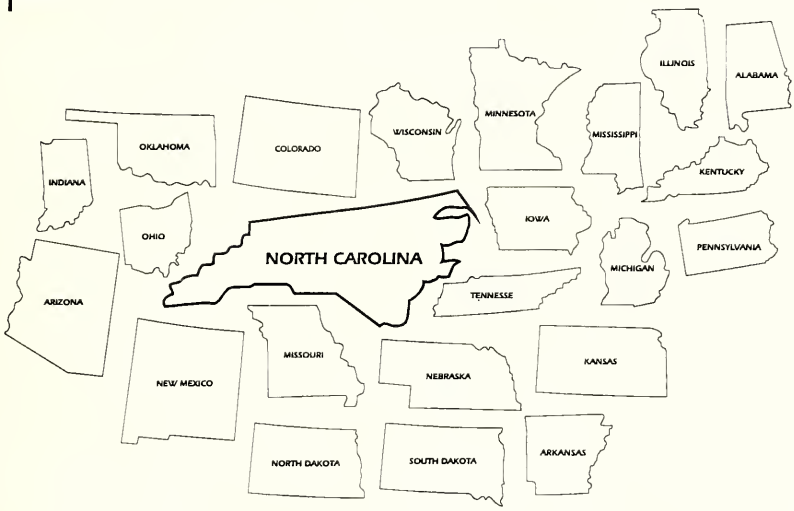

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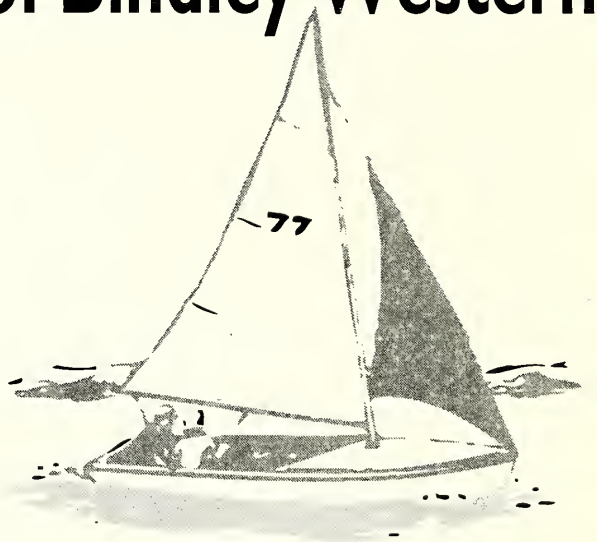

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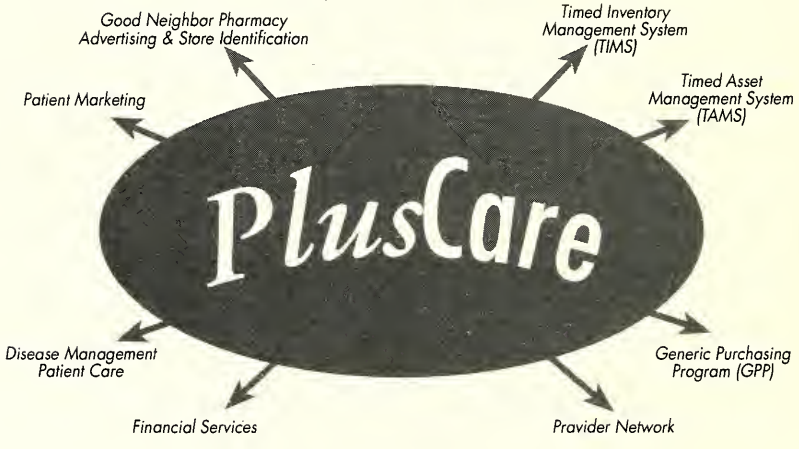

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The Devolving Federal Role in Health Care: The Necessity for Pharmacy Solidarity

By Captain Steven R. Moore
US Public Health Service, Rockville, MD

Editor's Note: The views expressed in this article are solely those of the author.

Over the last two years, there has developed a whirlwind of activity that has been unseen in recent Washington political history. When Thomas Jefferson spoke of a "wise and frugal government," even he could not have visualized the new perspective that is developing in Washington. The legislative and executive branches of the federal government are moving at a breakneck pace to change the entire federal role in health care. Given the increasingly competitive as well as complex nature of health care that continues to evolve parallel to this federal activity, the end result is a complex and convoluted structure that defies description or prognostication.

Preceding this current situation was the national focus on health care reform that led the Clinton Administration to develop a very comprehensive and complex system of health care reform that failed its muster in the legislative arena. Although Congress readily acknowledged that something had to be done to reform the current expensive and often duplicative health care system, the complex proposal evaded popular support and when the legislative proposal failed, it really stirred little public response. The parts of society that had been underinsured or uninsured remained so, but also had little legislative clout to get action moving again. It was only in August 1996 that an incremental health care reform bill—the portability health care bill—was passed by Congress and signed by the President.

In this environment of ambivalence, the control of both houses of Congress changed party control, setting the mood for a major series of confrontations and areas of contention. The Administration began a series of internal administrative actions to downsize, reinvent and reorganize the executive branch of the federal government. Concurrent to this Administration action, the new majority in Congress undertook the process of continuing government reform, reshaping and retooling. The eventual conflict of both concepts and planned actions were set in motion.

Traditionally, Congress has shaped its role through a series of legislative actions. Major programs are begun through authorizing legislation, which provides the direction, parameters and limitations of the program that they wish to mandate to the executive branch. It is then delegated to one of the cabinet-level departments or other components of the executive branch.

After the program is authorized, the appropriations legislation is created to pay for the program. Only when the program has been funded, is it implemented. Often after the initial appropriations legislation, the program is then funded as a line item in the annual appropriations bill for the department or position in the executive branch (one of 13 annual bills that are enacted by Congress before the October 1 start of the federal fiscal year). Periodically, a Budget Reconciliation Bill or Omnibus Budget Reconciliation Act (OBRA) may be passed to take a macro-level approach to funding and to enact controls or limits to previous legislation.

Even though this traditional system looks somewhat complex at first glance, the system was largely predictable and the Congress had the rigor and diligence to make it work through its existing committee system. When this new Congress began, however, it first realigned its committee structure and has continued to revise the domain of each of the committees, whether oversight, appropriations or topical to a particular area of expertise.

When this new Congress began its legislative agenda in January 1995, suddenly each piece of legislation became a catch-all for

practically anything and everything. Appropriation bills could contain policy and program direction, authorizing legislation could have clauses controlling budgets, and these bills were cross-matched and cross-pollinated. This is not to say that the former Congresses had not done this, but never to this extent. Groups tracking legislation no longer knew what to check or with whom to check, so the possibility of unknown or undesired components in passing legislation dramatically increased. Members of Congress often appeared to be voting along party lines rather than based on the bill's content.

Even though there was an avalanche of new legislation following the Contract with America, the bill authorizing the line-item veto for the president conveniently did not get passed at first, so each bill passed by the Congress had to be either signed or vetoed in its entirety by the president. This hurried pace and new emphasis on legislation for the new Congress ended up with no appropriations bills being ready to send to the president by the October 1, 1995, deadline, sending the federal government into a "Continuing Resolution" interlude to keep the government operational until the funding bills for fiscal year 1996 were ready. This was coupled with a dispute over increasing the borrowing authority for the federal government, necessary until there is a balanced budget.

The pharmacist remains one of the most publicly visible and pivotal of all health care providers.

With this legislative activity underway, the Department of Health and Human Services was in a reorganization, reinvention and downsizing mode. On March 31, 1995, the Social Security Administration left the department and became an independent agency. It also took half of the 125,000 personnel positions and half of the more than $6 billion budget. The department now became some 90 percent health and 10 percent human resources. The eight public health service agencies were elevated to operating divisions under the secretary. The Office of the Assistant Secretary for Health with its 1,200 positions was abolished on September 30, 1995, with about 300 positions becoming the Office of Public Health and Science. The remainder of the positions were absorbed into other parts of the department, and positions of retiring individuals were abolished.

Concurrent to this department reorganization, the Congress was developing legislation that could again reshape the department either through new or canceled program mandates or changes in budget priorities. Confusion, problems with employee morale and productivity, knowledge deficits in changed operating procedures and frustration existed throughout the system. If these problems existed internally, imagine how this presents itself by the time that it gets to the recipient of the services. Even though there has been no wholesale train wreck of the federal system, this remains very much a "sword of Damocles" hanging over everyone's head.

The full impact of federal programs being put under the control of states and local governments cannot be grasped yet. What this will mean, how it will be implemented and when will it happen are beyond approximation at this point. The technical expertise to manage these mandates does not necessarily exist, and there are few accurate projections on how this will be undertaken, much less how it will succeed. The case of reinventing the national welfare system that had existed for 60 years, into a state-based program, is the best example of this new direction.

What does this mean to the non-government sector? First, it means that anything can change via legislation at any time. There are few checks and balances that remain in the system, and there are no apparent or obvious persons in charge, at any given point in time on any agenda. Legislation can "happen" that is neither expertly planned nor generally desired, but gets inserted or added. This can work either well or poorly, depending on who is impacted. This is particularly difficult for private sector vendors who have traditionally

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existed based upon federal funding. In pharmacy, one does not have to go far to feel the federal role—Medicaid speaks only too loudly on this matter.

Second, it foretells long-term consequences that may or may not be intended. Many programs have years before they have measurable impacts, and it may be too late to change the impacts once they occur. Even if legislation is perfectly clear on its intent, there are many examples of unanticipated results that occur, either due to unclear directions, ambivalent directions or uncertain mandates. As a last resort, courts are invoked to determine intent or impact—although this is an increasingly long and expensive process.

...all pharmacists must remain vocal and technically accurate in their public interaction.

Third, this inconsistency in the system will not end soon. November 1996 is a major election date. The presidency will be contested, the entire House of Representatives and one third of the Senate politicking will continue at a fevered pitch until the election. Even after the election, the elected administration will have to organize and get appointees on board (whether the incumbent is re-elected or a new administration is elected). The new Congress will not be the same as the old one, given large-scale retirements (especially in the moderate power-broker portion of its members) and changing election results. There will be a reorganization phase and period of time until the newly elected are fully operational again.

This current system of massive confusion and political machinations will easily continue for another 2 years after the 1996 election. Even with a "new beginning," the fallout and discovery phase that warned: "Fasten your seat belts—it's going to be a bumpy ride," has never been more accurate.

The health care system, in whatever final form, will be profoundly changed. The pharmacist remains one of the most publicly visible and pivotal of all health care providers. Even though our credibility and trust factors remain high, we may well face the ire and frustration of consumers as they adjust to these changes. The pharmacist is often the most visible and most accessible representative of health care to the general public. Although largely powerless to make macro-level changes in the health care system, the pharmacist now, more than ever, must play a pivotal role in this new system and its public interface.

First, pharmacy must show solidarity and remain mutually reinforcing to its members. The partisan differences among different segments of the pharmacy practitioner family will need to take a back seat to the need for pharmacy to respond to dramatic changes in the health care system. Never have pharmacy organization watchdogs been needed more, as only they have the expertise and coverage to maintain the presence and technical knowledge to combat bad legislation or poorly developed government plans. Splitting hairs over who has the true divine inspiration of "pharmaceutical care" and who can best interpret this is a matter of little concern outside organized pharmacy—the public only sees the results!

Second, individual pharmacists must remain both knowledgeable and conversant in the continuing developments both in the profession and how it is involved within this whole new health care arena. With virtually all government dollars now competitive and no program sacrosanct, the individual pharmacist remains critical for the survival of the profession.

Third, all pharmacists must remain vocal and technically accurate in their public interaction. Elected representatives on all levels need to get an accurate perception and reliable information. Poorly thought out complaints, incomplete comments and problems without potential solutions get few results, and can be more harmful in the long run. The realm of continuing professional education for the near future may well need to include as

much civics and political science as pharmacotherapeutics and biopharmaceutics!

It was Henry Wadsworth Longfellow who said, "Go forth to meet the shadowy future, without fear." We must hope that this is still good advice today!

Editor's Note: This article was submitted for publication prior to the November 1996 elections. While the article refers to post-dated happenings, it does not affect the relevancy of the story.

Pharmacy Calendar

January

21 **Board of Pharmacy Meeting**

22 **Board of Pharmacy–Reciprocity**

27–28 **Board of Pharmacy Exams**
Chapel Hill

February

26 **Pharmacy Day in the Legislature**
Raleigh

27–28 **NCSHP Winter Meeting**
Charlotte

18 **Board of Pharmacy Meeting**

CORRECTION

In the September/October issue of the *Carolina Journal of Pharmacy* the story on page 17 was inadvertently labeled as Dave Marley's "Own Story." While Marley's experience was much like the story featured, it was not his story, but that of a NCPRN client who is almost 8 months clean and sober, and doing quite well.

In an effort to gain support for NCPRN, Dave Marley has shared his testimonial with many groups in the pharmacy arena. However, NCPRN adheres to the Narcotics Anonymous tradition of protecting the confidentiality of clients. It is out of that tradition that the identity of the recovering pharmacists whose stories were shared in the special PRN issue were done so confidentially.

We apologize for this misrepresentation and any inconvenience it may have caused.

The Journal Staff

ABOUT THE DIRECTORY...

The Pharmaceutical Directory is provided as a member service by the North Carolina Pharmaceutical Association. This is the sixth issuance of this directory, and we try to improve upon the accuracy and resourcefulness of the information with each publication. It contains many of the most frequently requested telephone numbers, addresses and other information about national, state and local pharmacy organizations, health care organizations, third party administrators and state and federal government offices.

The NCPhA staff has tried to make this list accurate and complete, with the help of many members who provided information. We encourage you to review the directory and notify us at once with any more current information or corrections. We also ask you to suggest additions to the directory for next year's issue. You can contact the NCPhA office at 800-852-7343.

LOCAL PHARMACEUTICAL ASSOCIATIONS

Alamance Pharmaceutical Society
Sec.-Treas., Jack G. Watts, 444 Tarleton Ave., Burlington, 27215-4908, (910)226-5681

Blue Ridge Pharmaceutical Association
President, Steve Critz, 104 Cowles St., N. Wilkesboro, 28659, (910)651-8100
Vice Pres., Larry Irwin, 411 Hawthorn Rd., Elkin, 28621, (910)835-6627
Treas., Jim Worley, 216 Gaddy's Ridge Rd., Wilkesboro, 28697, (910)838-7356
Sec., Lois Koontz, P.O. Box 1205, Jefferson, 28640

Cape Fear Pharmaceutical Society
President, Martha Epps, 4404 Owen Dr., Fayetteville, 28301, (910)4834050
Vice Pres., Linda Leviton, 811 Stamper Rd., Fayetteville, 28306, (910)484-3444
Sec-Treas., James Smith, 202 W. Broad St., St. Pauls, 28384, (910)865-4134

Catawba Valley Society of Pharmacists
President, Jerry Jackson, 101 Everett Dr., Granite Falls, 28630, (704)396-3063
Vice Pres., Mike Long575 19th Avenue Dr. NW, Hickory, 28601
Sec., Bill Means, 649 5th St. NW, Hickory, 28601, (704)322-7719
Treas. Don Johntson, 1021 13th Ave. NW, Hickory 28601, (704)322-7717

Cleveland County Pharmaceutical Association
Contact Person: Fern Douglas Potts, 330 Tremont Pt., Shelby, 28150, (704)487-0235

Columbus-Bladen County Pharmaceutical Association
President, John Watson, 204 Anderson Street, Tabor City, 28463, (910)642-3106
Vice Pres., Sterling Koonce, 7 Pireway Rd., Tabor City, 28463, (910)653-4800
Sec.-Treas., Mary Hooks, 1301 Miller Circle, Whiteville, 28472, (910)642-2250

Crystal Coast Pharmaceutical Association
Not Available

Davidson County Pharmaceutical Association
President, Robert E. Guy, 1583 Clodfelter Rd., Winston-Salem, 27107, (910)476-5632
Vice Pres., Donna Rivenbark, 600 Dorado Circle, High Point, 27262, (910)882-4308
Treas., Seth Miller, 412 Arbor Dr., Lexington, 27262, (704)246-5255
Sec., David Flemming, 703 E. Sunrise Ave., Thomasville, 27360, (910)475-1888

Down East Pharmacy Society
President, Michael Morton, 616 White Horse Dr., Greenville, (919)244-1086
Programs Director, Albert J. Rachide, 2600 Brookhaven Dr., Kinston, 28501, (919) 568-4131
Treas., Gene Sutton, 305 Churchill Dr., Kinston, 28501, (919)522-2054
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Durham Orange Pharmaceutical Association
President, Stephen C. Dedrick, 4416 Turnberry Circle, Durham, 27712, (919)681-2414
Sec.-Treas., John B. Zatti, 5 Porchlight Ct., Durham, 27707-2443, (919)490-4271

Four County Pharmaceutical Association
President, Gayle Cheek, 3144 Henry Wilson Rd., Oxford, 27565, (919)492-6344
1st Vice Pres., Anissa Ellis, RR 1 Box 396, Henderson, 27536, (919)492-6344
2nd Vice Pres., Sholar Powell, PO Box 642, Oxford, 27565, (919)693-5837
Sec.-Treas., Steve Potter, Rt. 2 Box 82P, Henderson, 27536, (919)492-3240

Gaston County Pharmaceutical Association
Not available

Guilford County Society of Pharmacists
Contact Person:
Sec.-Treas., Frank Burton, 120 E. Lindsay St., Greensboro, 27401, (910)275-5441

Harnett County Pharmaceutical Society
Inactive

High Country Pharmacy Society
Contact People: Tom Taylor, Debbie Turner, Watauga Med. Ctr., PO Box 2600, Boone, 28607, (704)262-4424

Lincoln County Pharmaceutical Association
President, Harry Brogden, 105 Labans Lane, Lincolnton 28092, (704)735-9867
Sec., David Keever, 696 Spring Side Dr., Lincolnton 28092, (704)735-0535
Treas., Ann Keever, same as above

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Moore County Pharmaceutical Society
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Vice Pres., Robert Beddingfield, P.O. Box 1451, Southern Pines, 28388, (910)692-4702
Sec.-Treas., Ralph Cole, 15 Baltusrol Ln., Pinehurst, 28374, (910)295-6961

New Hanover County Pharmaceutical Society
President, Marty Beasley, 5805 Oak Bluff Lane, Wilmington, (910)791-5921
Sec.-Treas., Tonia LeCroy, 5454 Eastwind Rd., Wilmington, 28403, (910)395-6089

North Eastern Carolina Pharmaceutical Society
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Vice Pres., Wells Armstrong, 320 Teach's Cove Rd., Bath, 27808, (919)923-2635
Sec.-Treas., Michelle Holton, c/o Bryan Clinic Pharmacy, 101 Clinic Dr., Tarboro, 27886, (919)823-3178

North West Pharmaceutical Association
President, Mike Brewer, 2106 Polo Road, Winston-Salem, 27106, (910)765-9878
1st Vice Pres., Julie Kirk, Bowman Gray School, Medical Center Blvd., Winston-Salem, 27157, (910)716-9043
2nd Vice Pres., LeAnne Kennedy, 934 Watson Ave., Winston-Salem, 27103, (910)722-9424
Treas., Terri Cardwell, 100 Saxby Ct., Clemmons, 27012. (910)766-7363
Sec., Elizabeth Oldham, 1176 Lamont Dr., Winston-Salem, 27103, (910)723-11979

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Vice Pres., Ted Michie, 244 N. Lamar St., Roxboro, 27573, (910)599-7411
Sec.-Treas., Kim Frazier, 356 Shiloh Church Rd., Roxboro, 27573, (910)599-3616

Piedmont Pharmaceutical Society
President, Whit Moose Jr., 8374 W. Franklin St., PO Box 67, Mt. Pleasant, 28124, (704)436-9613
Sec.-Treas., Laura Dillard, PO Box 4113, Concord, 28025, (704)782-2425

Randolph County Pharmaceutical Society
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Sec.-Treas., Lydia Bulla, 726 Dublin Rd., Asheboro, 27203, (910)626-4035

Richmond County Pharmaceutical Association
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Vice Pres., Billy Horne Sr., PO Box 31, Hamlett, 28345-0031, (910)582-3585
Sec.-Treas., Greg Marks, 805 Long Dr., Rockingham, 28379, (910)997-4471

Rockingham County Society of Pharmacists
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Vice Pres., Andy Gaster, 203 Holly Hill Dr., Reidsvile 27320, (910)342-9175
Treas., Gary Roberson, 544 Morgan Rd., Eden, 27288, (910)623-3132
Sec., Cheryl King, 4901- D Tower Rd., Greensboro, 27410, (910)656-4800

Rutherford County Pharmaceutical Association
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Sampson-Duplin Pharmaceutical Association
Inactive

Southeastern Pharmaceutical Association
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Sec.-Treas., Leslie Sanderson, P.O. Box 2151, Pembroke, 28372

Surry County Pharmaceutical Association
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Sec.-Treas., Barry Gates, 364 N South St., Mount Airy, 27030, (910)789-5050

Union County Pharmaceutical Association
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Co-Vice Pres., Mary Nash, 2214 Waxhaw Hwy, Monroe, 28112, (704)289-5541
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Secretary, Diane Vickery, 2337 Roland Dr., Monroe, 28112, (704)283-4322

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Wayne County Pharmaceutical Society
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Asst. Sec., Bill Rose, 303 W. Nash St., Wilson, 27893, (919)206-1990
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Washington, DC 20037
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(703) 281-2897 fax

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(703) 739-1321 fax

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Chapel Hill NC 27515
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(919) 967-8353 fax

BLUE CROSS & BLUE SHIELD OF NC
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P.O. Box 35 (Provider Claims)
Durham NC 27702
(919) 489-7431

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(800) 334-4111, Ext 3101

Drug Information Center
Connie Lee Barnes, Director
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Buies Creek NC 27506
(800) 327-5467; M-F, 8:30 a.m.-4:30 p.m.
(910) 893-1476 fax

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Palmetto Government Benefit Admistrators
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Florence SC 29501-0502
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Bristol, TN 37621-1717
(423) 764-6000

DRUG ENFORCEMENT ADMINISTRATION
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Greensboro NC 27407
(910) 547-4219

Regional Office
75 Spring St., SW
Room 740
Atlanta GA 30303
(404)331-7301

National Office
600 Army Navy Drive
Arlington VA 22202
(202) 307-7255 (registration)
(202) 307-7204

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University of North Carolina Hospitals
Maryann Oertel
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(919)966-5153
(919)966-1791

Duke University Medical Center Drug Information Service
Shelly L. Hayward
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Duke University Medical Center
Durham NC 27710
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Eastern Carolina Drug Information Center
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Pitt County Memorial Hospital
Pharmacy Service
2100 Stantonsburg Rd.
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North Carolina Baptist Hospital Drug Information Service Center
Wesley G. Byerly
Bowman Gray/Baptist Hospital
Medical Center Blvd.
Winston-Salem NC 27157
(910)716-2037
(910)716-2186 fax

EDS FEDERAL CORPORATION
Fiscal Agent for N.C. Medicaid
4505 Falls of the Neuse Rd.
Suite 200
Raleigh NC 27609
(919) 790-3004

SIGNA MEDICARE
P.O. Box 671 (Provider Claims)
Nashville TN 37202
(910) 665-0338 (NC Office)

FOOD AND DRUG ADMINISTRATION
David A. Kessler, Commissioner
5600 Fishers Lane
Rockville MD 20857
(301) 827-2410

Dan Sitko, Supervisor Investigator
Federal Building
310 New Bern Avenue
P.O. Box 25730
Raleigh NC 27611
(919) 856-4474

Drug Quality Reporting System
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1055 First Street, Suite 130
Rockville MD 20850-9862
(800) FDA-1088

FOOD AND DRUG LAW INSTITUTE
John C. Villforth, President
1000 Vermont Avenue, Suite 200
Washington DC 20005-4903
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(202) 371-0649 fax

GENERIC PHARMACEUTICAL INDUSTRY ASSOCIATION
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Suite 800
Washington DC 20006
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(202) 833-9612 fax

HEALTH CARE FINANCING ADMINISTRATION
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314-G Hubert H. Humphrey Building
200 Independence Avenue, SW
Washington DC 20201
(410) 786-3000

JEFFERSON-PILOT INSURANCE CO.
Sam Stuart (Agent)
P.O. Box 595
Winston Salem NC 27102
(910) 723-8811
P.O. Box 20727 (Mail Claims)
Greensboro NC 27420-0727
(910) 691-3000

MEDIMET
Metropolitan Life Insurance Co.
P.O. Box 52011
Pheonix, AZ 85072
(315) 792-3882

NCPA (formerly NARD)
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Executive Vice President
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(703) 683-3619 fax

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Carmen Catizone, Executive Director
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Park Ridge IL 60068
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(847) 698-0124 fax

NATIONAL ASSOCIATION OF CHAIN DRUG STORES, INC.
Ronald L. Ziegler, President & CEO
413 North Lee Street
Alexandria VA 22314
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(703) 836-4869 fax

NATIONAL CATHOLIC PHARMACISTS GUILD OF U.S.
John P. Winkelmann, Co-President and Executive Director
1012 Surrey Hills Drive
St. Louis MO 63117-1438
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NATIONAL COUNCIL ON PATIENT INFORMATION & EDUCATION
Ray Bullman, Executive Director
666 11th Street, NW, Suite 810
Washington DC 20001
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(202) 638-0773 fax

NATIONAL INSTITUTE FOR PHARMACIST CARE OUTCOMES (NIPCO)
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Reston VA 22091
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East Hanover NJ 07936
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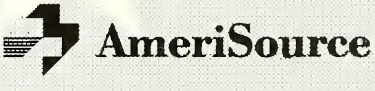

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AROUND THE STATE

WEDDINGS

Lenoir—Kristin McKeithan wed Jack Richards on May 18. Kristin is a graduate of the UNC School of Pharmacy and a Ph.D. candidate at the University of Texas at Austin.

Lincolnton—Shannon Tracey and **Eric Smith** were married on April 27. Eric is a UNC School of Pharmacy graduate and is employed by Glaxo Wellcome in Research Triangle Park.

BIRTHS

Siler City—Catherine and Eugene Simmons announce the birth of a daughter, Jane Street Simmons, born April 18 weighing 6 lbs. 1 oz.

OBITUARIES

Goldsboro—Bernard R. Ward, died on August 19. Mr. Ward was manager of Goldsboro Drug from 1935 until his retirement. He was a long-time member of NCPhA and served as president of the group in 1952. Ward was recipient of the NC Pharmacist of the Year Award in 1970. He was active in many civic groups and a member of the First Presbyterian Church where he was a deacon and elder.

Bessemer City—Alfred W. Best died September 24. Best was the co-owner and operator of Central Drug Store. He was a 1970 graduate of the UNC School of Pharmacy and a member of the NCPhA. Best was a member of Andrew's Episcopal Church and other community-related organizations.

HIGHLIGHTS OF THE AUXILIARY'S FALL FIESTA

On November 9, 1996, the Woman's Auxiliary hosted a Fall Fun Day. Our first event for the evening was the Blue–White basketball game at the Dean Smith Center. Afterwards, we met at the Institute of Pharmacy for a Mexican fiesta.

We were privileged to have greetings from Associate Dean George Cocolas from the UNC School of Pharmacy; Joe Whitehead, Assistant Dean of the Campbell University School of Pharmacy; and Phillip Crouch, president of the North Carolina Pharmaceutical Association.

After a delightful dinner, Susan Campbell and Mary Lou and Ashley Worley "attempted" to teach us the Macarena! The fun and fellowship continued with bingo and prizes. We all had a great time. Many thanks to the officers of the Auxiliary and Sandra Crouch, wife of the NCPhA president, for contributing their time and talents to make the evening a success.

WELCOME NEW MEMBERS!

Since April 1996, the following people have become members of the NCPhA. These new members join more than 2,400 colleagues in the association who are committed to advancing the interests of pharmacy in North Carolina.

Nancy Wolford, Apex
Herman Burney,Winston-Salem
John A. McNeill,Whiteville
Lynn B. Blue,Charlotte
V. Stuart Blue, Charlotte
Michael E. Burkes, Raleigh
Larry A. Cline, Greensboro
Vijay K. Dhingra, Richmond, VA
Michael C. Allen, Kinston
Paula L. Bess, Bessemer City
Gary D. Clark, Mocksville
Jennifer Ann Cox, Harrisburg, VA
Bradley Helms, Indian Trail
Donald J. Kerrish, Wake Forest
Donna Neal, Wrightsville Beach
Stephen Olesko, Apex
Susan C. Pitts, Glen Alpine
Cherine Ali, Raleigh
Gena Allen, Chapel Hill
Shelli Ambrose, Edenton
Jayshree Amin, Chapel Hill
Daniele Ayer, Charlotte
Shelly E. Bagley, Carrboro
Sarah E. BanBoskerck, Pinebluff
Craig C. Barlow, New Bern
Faith L. Barnett, Goldsboro
Craig Barrett, Jefferson
Terry Bebber, Taylorsville
Jody D. Beck, Lexington
Amy Bissette, Elm City
Sherry R. Blevins, N. Wilkesboro
Rock A. Boney, Wallace
Klyda L. Boone, Jefferson
Wiley B. Brantley, Zebulon
Ed Brewer, Coats
John Brooks, Pembroke
Huyla G. Coker, Edenton
Shannon S. Cook, Wilmington
Courtney M. Deadmon, Raleigh
Susan Deaver-Brown, White Oak
Stephanie Dillard, Raleigh
John B. Ellington, Graham
Angela H. Elliott, Coats
Johnna M. Enloe, Westfield
Lisa B. Ezzell, Carrboro
Valerie Fleming, Rockingham
Karen K. Floyd, Wilmington
Gregory D. Fox, Winston-Salem
Ashley R. Furman, Greenville
Melanie Gardner, Carrboro
H. Giannopoulos, Columbia
Edi June Gillespie, Cherryville
William C. Griffin III, Lumberton
Dina L. Hall, Autryville
Heather L. Hargrave, Nashville
Virginia Harris, Gastonia
K. A. Hendrick, Winston-Salem
Meredith Hiatt, Kernersville
William R. Holshouser, Salisbury
Tina C. Hussey, Robbins
Jennifer L. Isenhour, Cleveland
Joni K. Johnson, Winston-Salem
John W. Joines, Chapel Hill
Kristin Jones, Cary
Stephen D. Joyce, Chapel Hill
Rhonda Justice, Browns Summit
Alice Karobia, Carrboro
Taffy H. Klaassen, Belhaven
Laura F. Letterman, Etowah
Brandon L. Maddox, Chapel Hill
Julie Mann, New Hill
Laura K. McArthur, Red Springs
Michael J. Miller, Gastonia
Penny Morgan, Middlesex
Elizabeth Myers, Denver
Valerie Neal, Chapel Hill
Neal R. Nichols, Taylorsville
Walton P. O'Neal, III, Washington
Jennifer D. Obenrader, Fuquay Varina
Allison J. Parrish, Smithfield
August R. Peters IV, Washington
Bob C. Phillips, Greensboro
Melanie Reece, Pfafftown
Effie Retsios, Charlotte
Jodie E. Ritchie, Vale
M. H. Rivenbark, Greensboro
Greg M. Rochelle, Durham
Amy Sauls, Carrboro
Daniel B. Seavers, Charlotte
Emily K. Severt, Gastonia
Elizabeth Shick, Raleigh
Robert K. Smith, Raleigh
Denise Staley, Pittsboro
Jennifer M. Sutton, Reidsville
Kendra Sutton, Liberty
Savannah B. Swartout, Hope Mills
Kristen Thomas, Roanoke
Kenrick Thompson, Biscoe
Jonathan P. Tsipis, Hillsborough
June Tuning, Durham
Leisha H. Walters, Lumberton
Dana L. Warren, Salemburg
Britt A. Webb, Weaverville
Debra A. Wentz, Elon College

Lance Wheeler, Mooresville
Donna S. Wightman, Chapel Hill
Kate M. Wilson, Greensboro
David W. Wood, Charlotte
Catherine Woodard, Hayesville
Malisha C. Woodard, Wilson
Donald Wright, Chapel Hill
Shannon B. Booth, Greensboro
Stacy M. Brown, Durham
S. Jason Couch, State Road
Theresa L. Dail, Carrboro
Crystal Dancy, Carrboro
Laura W. Howard, Omaha, NE
Vincent P. Howard, Omaha, NE
Carla Johnson, Franklinville
Kat Jones, Winston-Salem
Leroy Kromis, Carrboro
Dionne Lowder, Carrboro
Angela N. Milton, Oxford
Amy J. Moore, Reidsville
Julie P. Moose, China Grove
Bob C. Phillips, Greensboro
M. H. Rivenbark, Greensboro
Kim Sharpe, Sanford
Rashmi Shingari, Greensboro
Laura S. Smith, Ellenboro
Monica N. Stonefield, Cary
Elizabeth Ann Taylor, Laurel Hill
Molly R. Toman, Raleigh
Jennifer Vandergriff, Charlotte
Charlene L. Warren, Ayden
Brooksye Apple, Elon College
David Armstrong, Nebo
Dwight Ayscue, Henderson
Norman D. Banks, Matthews
Samantha E. Barnes, Charlotte
George W. Bender, Fayetteville
George Brookins, Lincolnton
Amy B. Bynum, Garner
Chad Clodfelter, Salisbury
Allison C. Cobb, Stanley
H. Carter Cobb, Stanley
Joseph L. Davis, High Point
Sharon Davis, Asheville
Sonja P. Estes, Raleigh
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Teresa Hathcock, Oakboro
Mary V. Hayes, Union Grove
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Nadia A. Ibrahim, Chapel Hill
Teresa Jackson, Winston-Salem
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Claudia Register, Cleveland
Paul J. Reinhart, West Chester, NY
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Christopher Styers, Lexington
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Dan Wilson, Aberdeen
Eric C. Bell, Charlotte
Kim Fuller, Greensboro
Sidney Higbee, North Wilkesboro
Barbara Adler Phillips, Charlotte
Catherine K. Barnes, Wilson
Angela H. Bryan, Clayton
Nancy W. Crabtree, Lake Waccamaw
Diana F. Elliott, Greensboro
Katherine M. Farmer, Wendell
Michael R. Fletcher, Sparta
Dawn Guy, Kenansville
Sally Huston, Charlotte
Lawrence P. Jones, Ahoskie
Maryann C. Lucas, Mooresville
Lisa S. Metcalf, Durham
Dwight B. Miller, Hudson
Debbie Overton, Raleigh
Richard K. Owensby, Morganton
Swati S. Pathak, Monroe
Jerome J. Pinto, Wilmington
Jane G. Rivenbark, Fayetteville
Chris Shaffer, Greensboro
Jeffrey Shatterly, Dunn
Charles F. Sprinkle, Barnardsville
Annette Taylor, Warsaw
Hunt Taylor, Warsaw
Alicia Underwood, Cary
Jo Ann C. Williams, Charlotte
Stuart R. Young, Graham
Dena B. Askew, Angier
Wendy Benton, Cary
Marshall Bowden, Chapel Hill
Robert L. Carr, Rose Hill
Wheeler L. Carver, Jr., Roxboro
Terry L. Coffey, Granite Falls
Dianne Davis, Goldston
Gerald Davis, Goldston
Burt Dean, Laurinburg
Leslie Driver, Cary
Corey Furman, Greenville
Stephen Garvin, Newton
Susan Garvin, Newton
Gordon Ingle, Chapel Hill
Peggy McPhail, Lillington
Poonam G. Pande, Apex
Preston Parker, Mt. Olive
John C. Read, Asheville
Stephen B. Roberts, Black Mountain
John Swisher, Kernersville
Tracy E. Thomason, Chapel Hill
Betsy D. Urquhart, Ahoskie
Sarah E. Vanboskerck, Pinebluff

The revisions to the Constitution and Bylaws were presented for approval to the membership during the 1996 annual NCPhA meeting. Changes to the Bylaws were approved. Below is the revised NCPhA Bylaws (additions are in italics). Refer to the July/August 1996 issue of the Carolina Journal of Pharmacy for changes to the Constitution.

BYLAWS OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Article I—Election of Officers

Section 1. A Nominating Committee of seven active members shall be annually chosen by the President, and charged with the duty of selecting candidates *from among the active membership* for the offices of President-Elect, three members-at-large of the Executive Committee of the North Carolina Pharmaceutical Association and any vacated unexpired terms of members-at-large. Nominees for President-Elect must have served at least one year on the Executive Committee.

Section 2. At the last session of each annual meeting, the Nominating Committee shall submit for approval a slate of two or more candidates together with written biographical sketches for the office of President-Elect, and six candidates for three places as members-at-large of the Executive Committee. Additional nominations, *each* with *a* written biographical sketch *and a supporting petition signed by ten (10) active members,* can be made from the floor. If a nominee for office withdraws or becomes unable to run for any reason, *and there are thirty (30) or more days prior to distribution of ballots to the membership*, the nominating committee shall reconvene to make an alternate nomination. This alternate nomination shall need no other approval.

Section 3. The candidates so nominated shall be residents of North Carolina and a ballot containing their names shall be mailed by the Executive Director to every *active* member of the Association approximately four months prior to the date of the next installation of officers, together with a request that the members indicate their preferences on this ballot, and return the ballot to the NCPhA office within thirty days.

Section 4. The ballots received as indicated in the preceding paragraph are to be sent to *the* Election Committee in care of the Executive Director. The Election Committee shall consist of four *active* members *appointed* by the *President.* The Election Committee shall *open, count, and* certify to the Executive Director the results of the tally, after which the *results* shall be published.

The Executive Director shall notify all candidates of the time and place of the meeting of the Election Committee and extend a written invitation to attend the counting of the ballots.

Section 5. The officers thus elected by a plurality of the votes shall be installed at the final session of the next annual meeting.

Section 6. Elected officers must be residents of North Carolina while serving their terms of office.

Article II—Duties of Officers

Section 1. THE PRESIDENT: The President shall:

(1) Preside at all meetings of the Association;

(2) Enforce the Constitution and Bylaws and parliamentary procedures in accordance with Robert's Revised Rules of Order;

(3) Appoint all committees not otherwise provided for or ordered by the Association;

(4) Be an ex officio member of all academies, delegations, *and committees, with the exception of the Nominating Committee;*

(5) Fill by appointment all committee and office vacancies brought about by death or

inability to serve except as otherwise provided in the Bylaws. Said appointee shall serve until the next regularly scheduled election;

(6) Be Chairman of the Executive Committee;

(7) Call special meetings of the Association at the written request of ten percent of the active members *or a majority of the Executive Committee;*

(8) *Call special meetings of the Executive Committee at the written request of the majority of the Executive Committee;*

(9) Present a report of the affairs of the Association at each annual meeting;

(10) Appoint a parliamentarian to serve at the annual or special meetings of the Association;

(11) *Serve as an official spokesperson for the Association;*

(12) Perform such duties as pertain to this office;

(13) *Serve from installation at one annual meeting of the Association to the installation of the President-Elect as President at the next annual meeting.*

Section 2. THE PRESIDENT-ELECT: The President-Elect shall:

(1) Perform the duties of the President in the absence of the President;

(2) Become the President of the Association for the unexpired term of the elected President and shall continue to serve a regular term as President, if the office of President shall be vacated for any reason;

(3) Be elected by written ballot. In the event that this office is vacated for any reason, the office may be filled only by special election.

Section 3. THE EXECUTIVE DIRECTOR: The Executive Director shall:

(1) Serve as Secretary-Treasurer of the Association;

(2) Keep and maintain all records of the Association;

(3) *Review and evaluate legislative/regulatory proposals affecting the pharmacy profession, and serve as a lobbyist for the Association;*

(4) Edit and distribute the official publications of the Association;

(5) Employ *budgeted staff;*

(6) *Serve as an official spokesperson for the Association;*

(7) Discharge such other duties as the Executive Committee shall assign or designate.

The Executive Director shall be employed by the Executive Committee under contract. The Executive Director's performance and compensation shall be reviewed annually by the Executive Committee. The Executive Director shall be bonded in an amount required by law and approved by the Executive Committee, said bond to be paid by the Association. A certified public accountant shall be engaged to audit the financial accounts of the Association and report to the Executive Committee.

Article III—Committees

Section 1. Standing Committees: There shall be six (6) committees of the Association:

(1) Executive Committee

(2) *Finance Committee*

(3) Legislative Committee

(4) Nominating Committee

(5) Resolutions Committee

(6) Ethics, Grievance and Practice Committee

Section 2. Composition and Responsibilities: The composition and responsibilities of the standing committees shall be as follows:

(1) Executive Committee—The Executive Committee shall consist of the President

and the President-Elect, each serving a one-year term; the two (2) immediate Past-Presidents, each serving a two-year term; six (6) members-at-large, three of whom are elected annually, each serving a two-year term; and the Executive Director.

The duties of the Executive Committee shall be:

A. Act upon all matters of business between annual meetings.

B. Approve *and monitor the annual budget.*

C. Employ the Executive Director and annually review performance and compensation.

D. Act on appeals from members emanating from decisions of the Ethics, Grievance and Practice Committee wherein sanctions are imposed for violation of the Code of Professional Ethics of the Association.

E. Perform other functions necessary for the efficient operation of the Association.

(2) Finance Committee—The Finance Committee shall consist of at least four (4) members appointed by the President.

The duties of the Finance Committee shall be:

A. Prepare and review the annual budget, financial and investment policies and procedures, and the formulation of other pertinent financial statements and reports.

B. Assure that the Association's financial records and statements are audited annually.

C. Present annual budget, investment recommendations and other plans for revenue generation, and financial policies to the Executive Committee for review and approval prior to implementation.

D. Assist and advise the Executive Director in all financial matters.

(3) Legislative Committee—The Legislative Committee shall consist of at least seven (7) members appointed by the President. Non-voting advisory members may be appointed by the President.

The duties of the Legislative Committee shall be:

A. Review and evaluate all legislative/regulatory proposals affecting the profession of pharmacy.

B. *Support* the passage of such legislation as the Association may specifically recommend.

C. Oppose such legislation as the Association resolves to oppose.

D. Between annual meetings of the Association, if legislative *concerns* occur, shall *request* a called meeting of the Executive Committee to advise, approve, or oppose such measures or methods as the Legislative Committee may present.

E. Submit a report to the Association at the annual meeting.

(4) Nominating Committee—The Nominating Committee composition and functions are described in Article I, Sections 1 and 2, Bylaws.

(5) Resolutions Committee—The Resolutions Committee shall consist of five (5) members appointed by the President.

The *functions* of the Resolutions Committee shall be:

A. Receive resolutions from Association members for study and action at annual meetings. Resolutions must be in writing and *should be received by the Executive Director ten (10) days prior to the annual meeting, but* no later than the first *business session* of the annual meeting. The Committee shall not process proposals submitted from the floor as new business.

B. Ensure that resolutions to establish Association policy or action are made appropriate and ready for consideration by the Association.

C. Present to the Association with recommendations for disposition those *resolutions*

which are appropriate to and ready for action by the Association.

(6) Ethics, Grievance and Practice Committee—The Ethics, Grievance and Practice Committee composition and functions are described in Article III, Section 2 of the Constitution.

Section 3. Appointive Committees: The President shall appoint Committees to be assigned applicable powers and duties, consistent with the Association's Constitution and Bylaws.

Section 4. Term: The term for each member of any committee shall be one year, with the term ending at the close of the annual meeting following appointment, except as noted otherwise in these Bylaws. Except for the ex officio member(s) of the committee, a member shall not serve on any *standing* committee for more than four (4) consecutive years or more than three (3) committees concurrently.

Section 5. Vacancies: Vacancies on any committee may be filled for the unexpired portion of the term in the same manner as provided in the case of original appointments.

Section 6. Powers and Duties: Committees created under the provisions of these Bylaws shall have such powers and duties as are specifically given to them by the Executive Committee.

Section 7. Quorum: A majority of the members of the Committee shall constitute a quorum and the act of a majority of the members present at any meeting at which a quorum is present shall be the action of the Committee. In the absence of a quorum, those members present can develop recommendations for the Executive Committee's consideration, provided the recommendations are presented to the Executive Committee with a statement identifying who *were* present and that the recommendations were developed at a meeting without a quorum present.

Section 8. Rules and Procedures: Each committee may adopt rules and procedures for its own governance.

Section 9. Meetings: Committees shall meet, *given sufficient notice*, on *the* call of the President or of the Committee Chairman.

Article IV—Academies

Section 1. Establishment of Academies: Any group of 30 or more active members may petition the Executive Committee to form an academy within the organizational structure of the North Carolina Pharmaceutical Association. Such a petition must be based upon a demonstrated need and represent an identifiable and distinct field of practice that calls for special skill and knowledge. All academies shall be established on a statewide basis and membership therein shall be open to all active members.

Section 2. Structure: Each academy shall have as officers a President, Vice-President, and Secretary. Each academy shall also have a Board of Directors of four active members of the academy.

Section 3. Purpose and Function of Academies: Academies shall have as their basic purpose the establishment and elevation of practice standards within a given practice area. Specific functions of North Carolina Pharmaceutical Association academies are to include educational, professional, governmental and economic affairs related to a specific practice area. Academies shall have no policy-making authority with respect to the Association's position on given issues, but may make specific policy recommendations to the Executive Committee.

Article V—Membership

Section 1. Active Members: All pharmacists meeting the qualifications of Article IV, Sections *1, 2, and 3* of the Constitution are eligible for active membership in the North

Carolina Pharmaceutical Association. *All active members shall have the right to vote and hold office in the Association.* Each applicant will complete a membership form available from the Association office and submit it together with annual dues.

(l) Dues: All members shall pay the Executive Director in advance the annual dues as voted by the Executive Committee. Pharmacists residing out-of-state shall pay one-half (1/2) the annual dues. Husband and wife pharmacists shall pay one and one-half the annual dues and shall receive one mailing, with the exception of Association mail elections, for which they shall each receive a ballot.

(2) Non-Payment: Anyone neglecting to pay annual dues shall lose membership *and not be entitled to vote* in the North Carolina Pharmaceutical Association.

(3) Reinstatement: A member suspended from a membership classification under this Article may be readmitted upon compliance with either of the following requirements:

(A) Submission of an application for membership classification as if the person was a new member, accompanied by payment of the appropriate dues. In such case, the membership classification shall date from the time of reinstatement.

(B) Submission of all dues and assessments in arrears. In such case, the membership classification shall date from the original date elected to the membership classification.

(4) Resignation: Resignation of membership shall be made in writing to the Executive Director. The Executive Director shall acknowledge all resignations in writing and shall report them to the Executive Committee.

Section 2. Life Members: Any member in good standing meeting the qualifications of Article IV, Section 2 of the Constitution is eligible for life membership, and thereafter shall be exempt from all future annual dues.

Section 3. Retired Members: Any active member *meeting the qualifications of Article IV, Section 3 of the Constitution shall be a retired member of the Association. A retired member is eligible to vote and hold office in the Association.*

Section 4. Student Members: Any student in a School or *College of P*harmacy meeting qualifications of Article IV, Section 4 of the Constitution *shall be a student member of the Association. A student member is not eligible to vote or hold office in the Association but is entitled to all other rights of membership.*

Section 5. Honorary Members: Honorary membership may be conferred upon non-members *meeting the qualifications of Article IV, Section 5 of the Constitution.* Honorary members shall *not* have the *right to vote or hold office but are entitled to all other rights of membership.*

Section 6. Associate Member: Any person *meeting the qualifications of Article IV, Section 6 of the Constitution shall be an associate member of the Association. An associate member shall not have the right to vote or hold office but is entitled to all other rights of membership.*

Article VI—Meetings

Section 1. Official Meetings: The Association shall convene an annual meeting each year and such interim or special meetings as necessary to conduct the business of the Association. The membership shall be notified at least sixty (60) days in advance of an annual meeting and at least thirty (30) days in advance of an interim or special meeting of the Association.

Section 2. At the opening of each annual meeting, in the absence of the President or President-Elect, a member of the Executive Committee shall take the chair. In the absence of all, a President pro tempore shall be elected by the members present. In the absence of the Executive Director, the presiding officer shall appoint a Secretary pro tempore.

Section 3. Quorum: Fifty members present eligible to vote constitute a quorum.

Article VII—Student Organizations.

There shall be a student *organization(s)* of the Association, the membership to be composed of and limited to regularly enrolled students in a school of pharmacy within the State of North Carolina. The officers shall be responsible to the Executive Director of the Association for funds collected as annual Association dues. *Each student organization* shall have a *governing document* which shall be approved by the Executive Committee *of the Association.*

Article VIII—Delegates

The Executive Committee shall appoint its allotted number of delegates to *those organizations with which it has such privilege.*

Article IX—Amending the Bylaws

Every proposition to alter or amend these Bylaws shall be submitted in writing to the Constitution and Bylaws Committee and, if accepted, referred to the Executive Committee who shall submit it in writing at one business session of an annual meeting and shall be decided by *vote* at a subsequent session when, upon receiving a vote of two-thirds of members present eligible to vote, it shall become part of the Bylaws.

Article X - Auxiliaries

Section 1. Authorization: The Association authorizes the organization of auxiliaries to be permanent organizations to aid in the Association's activities.

Section 2. Membership: Membership of the auxiliaries shall be comprised of either spouses of members or representatives of pharmaceutical manufacturers or suppliers.

Section 3. Dues: Each member of an auxiliary shall pay annual dues to *its* Treasurer in an amount approved by the auxiliary and the Association.

Section 4. Function: The Executive Committee of the Association shall work with the auxiliaries in matters pertaining to program activities.

Adopted Friday, April 22, 1985, at the Annual Meeting in Raleigh, North Carolina. Amended at the 1992 Annual Meeting in Pinehurst, North Carolina; at the 1993 Annual Meeting in Atlantic Beach, North Carolina; and at the 1996 Annual Meeting in Greensboro, North Carolina.

OUT WITH THE OLD AND IN WITH THE NEW!

A new year is being ushered in, one filled with many positive changes and additions for members of the North Carolina Pharmaceutical Association. One change members will likely notice right away will be the changes to the *Carolina Journal of Pharmacy.*

Beginning with the January/February 1997 issue, the *Journal* will be published in the larger 8 1/2" x 11" format. In addition to the larger format, the *Journal* will include feature articles, legislative updates, NC Board of Pharmacy updates and many other special additions.

As a service to NCPhA members, business-card-size advertisements (3 1/2" x 2") may be placed in the *Journal.* The cost for this service is $35 per insertion and all advertisements must be received by our office camera ready, meaning no alterations will be made prior to insertion in the *Journal.* For more information regarding advertising call Terri at 800-852-7343.

The *Journal* staff welcomes your comments and suggestions as we seek to better serve the NCPhA membership. Send your comments to: *Carolina Journal of Pharmacy,* P.O. Box 229, Chapel Hill NC 27514-0229.

CORRESPONDENCE COURSE

PATIENT COUNSELING ON VARICOSE VEINS

Thomas A. Gossel, R.Ph., Ph.D.
Dean and Professor of Pharmacology
Ohio Northern University
Ada, Ohio

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Goals

The goals of this lesson are to discuss the causes, prevention and treatment of varicose veins, and to suggest information that can be conveyed when counseling patients with varicose veins.

Objectives

At the conclusion of this lesson, successful participants should be able to:

1. identify the factors that predispose, cause, or worsen varicose veins;
2. differentiate between various nonpharmacologic methods to treat varicose veins;
3. exhibit knowledge of the terms sclerosing agent and sclerotherapy, and identify examples; and,
4. demonstrate an understanding of how to counsel patients on the causes, prevention and treatment of varicose veins.

Introduction

Most pathologic disorders of the veins do not have the impressive frequency or dynamic outcomes of arterial diseases such as atherosclerosis, aneurysms, coronary heart disease and cerebrovascular accidents. However, some less common venous disorders can cause extreme discomfort and/or disfigurement. Varicose veins is one such condition.

Veins and Their Valves

The function of the venous system is to return blood from peripheral tissues back toward the heart. Veins are frail structures that depend on the surrounding tissues for their support. They are broadly defined as superficial or deep. Superficial veins are those that are located near the body's surface. They are imbedded in skin and other connective tissue. Deep veins are those which lie deeply within the muscle mass.

In order to understand the causes and treatment options for varicose veins, it is important to first consider the concept of hydrostatic pressure. A reference point for understanding this is to envision a body of water such as a

lake. The pressure on the water at its surface is equal to atmospheric pressure, but rises 1 mm Hg for each 13.6 mm distance below the surface. This pressure results from the weight of the water and is, therefore, called hydrostatic pressure. The hydrostatic pressure along the length of the leg, and along the length of the venous return system to the right atrium, decreases proportionally with the distance from the foot to the heart.

A similar event is noted on the vascular system because of the weight of blood in the veins. When a person is standing upright, the pressure in the right atrium is approximately 1 mm Hg since pressure is affected by muscle movement. When the person stands absolutely still, the pressure in the veins of the feet is approximately 90 mm Hg, simply because of the weight of the blood in the veins.

Valves. Most veins that are larger than 2 mm in diameter contain a system of valves which aid in the return of blood to the heart because they are positioned in such a way that they assist the return of blood from areas of the body below the heart, against the force of gravity. These valves are bicuspid in design, meaning that they consist of two tiny folds of tissue (cusps) arising in the vein's inner wall (the intimal layer).

Valves are located at irregular intervals. Their number varies from person to person. There may be up to 20 valves along the long saphenous vein, the primary surface vein that traverses the entire length of the leg. There may be nine to 12 valves in the short saphenous vein. This runs from the foot up to the back side of the knee. Valves are arranged so that the direction of blood flow can only be toward the heart.

With each movement of the legs, the muscles are tightened and compress the veins located within the muscles and those adjacent to them. This compression squeezes blood upward and out of the veins. If one stands perfectly still, the venous hydrostatic system (pump) does not work, and the venous pressure in the lower part of the leg can rise to the full hydrostatic value of 90 mm Hg in about 30 seconds. Blood can collect in the lower extremities and fluid will leak from the circulatory system into the tissue spaces. As a result, the legs become swollen and the blood volume diminishes. In fact, as much as 15 to 20 percent of the blood volume can be lost from the circulatory system within the first 15 minutes of standing perfectly still, as sometimes occurs when a soldier is forced to stand at absolute attention. In persons engaged in occupations in which they must stand for long periods each day, e.g., pharmacists, such pooling of the blood can eventually stretch the veins and lead to varicose vein development. This is accentuated with heavy lifting.

Valves can become incompetent and are sometimes destroyed. This is especially true when the veins have been stretched beyond a reasonable size by an excess of venous pressure for a prolonged period, e.g., during pregnancy. Stretching the veins increases their diameter, but does not increase the size of the valves. The valves no longer close completely to block the reverse blood flow in the enlarged veins. This increases the vein diameter even more, creating a vicious cycle, i.e., onset of varicose veins.

Table 1
Schlerosing Agents for Treating Varicose Veins in the Leg

Generic Name	TradeName/Manufacturer	Availibility
Morrhuate Sodium	Morrhuate Sodium/ American Regent, Pasadena	Inj: 50mg/mL
	Scleromate/Palisades Pharm	Inj: 50mg/ml
Sodium Tetradecyl Sulfate	Sotradecol/Elkins-Sinn	Amps: 1%, 3%

Etiology of Varicose Veins

By definition, varicose veins are prominent, abnormally dilated, tortuous (marked by repeated twist, turns or bends), and elongated areas in the saphenous veins and their tributaries. They differ from an aneurysm in that in the former, the vessel is affected throughout a significant segment of its length. An aneurysm is more localized to a specific section. Varicose veins usually result from defective structure and function of the venous valves.

Other possible causes include intrinsic weakness of the vein wall, or rarely, from atriovenous fistulas. The high occurrence in the saphenous vein is due to the high venous pressure in the legs when they are dependent (i.e., pointed downward), coupled with the relatively poor tissue support for the superficial veins.

Approximately 20 percent of adults (with up to 50 percent of persons over age 50) are reported to develop varicose veins. A family history of varicose veins is present in up to 15 percent of patients. This is postulated to be due to defective development of the walls of veins. Marfan syndrome, various Ehlers-Danlos syndromes, and an autosomal recessive condition featuring distichiasis (a double row of eyelashes) predispose to varicose veins.

The condition is more common in women than men by a factor of 5:1, probably due to venous stasis in the lower legs during pregnancy.

Obese persons have a greater tendency to develop varicosities. This probably relates to their poor tissue support resulting from large accumulations of subcutaneous fat.

As stated earlier, varicose veins are dilated, tortuous and elongated. This dilation is irregular, and the vein will show nodular or fusiform (tapering toward the end) distensions, or even aneurysmal pouchings. There is asymmetric variation in the thickness of the vessel wall with thinner sections at points of maximal distension. Compensatory hypertrophy may produce thickening of the vessel wall in a neighboring segment. Frequently, the elastic tissue in the major veins will have degenerated.

Varicose veins are categorized as primary and secondary. A primary condition is one that originates in the superficial venous system. Secondary varicose veins result from deep venous insufficiency and incompetent perforating veins, or from deep venous occlusion causing enlargement of superficial veins that are serving as collaterals.

In most affected individuals, there is no clearly identifiable cause or precipitating factor. Congenitally absent or defective valves are a cause of varicose veins in early life. The cause may be thrombosis secondary to thrombophlebitis (partial or complete occlusion of a vein by a thrombus [blood clot]) or external pressure, as is the case in pregnancy, ascites and tumors. Individuals with varicose veins in the lower extremities have been shown

Table 2
Representative Uses for Elastic Support Hosiery

Moderate Compression:
- mild varicosities
- mild aching legs
- mild swelling after cast removal
- mild swelling of the ankles from extended periods of standing

Firm Compression:
- painful varicosities
- chronic aching legs
- pronounced swelling after cast removal
- chronic swelling of the ankles from extended periods of standing
- prophylaxis against possible clotting after vein stripping
- mild, reversible lymphedema
- mild thrombophlebitis

Heavy Compression:
- severe, painful varicosities
- severe swelling after cast removal
- pronounced swelling of the ankles due to poor circulation
- prophylaxis against anticipated clotting after vein stripping
- chronic venous insufficiency
- severe, reversible lymphedema

to have increased venous distensibility and reduced amounts of collagen and hexosamine (a nitrogenous sugar) in the walls of unaffected veins. The role of deficiency of these substances is unclear. An association of varicose veins with hemorrhoids and diverticulitis suggests that increased intra-abdominal pressure during bowel movements may play a role in their pathogenesis.

Veins in at least three sites other than the legs may also become varicosed. One such site of varicosity formation is the venous system at the anorectal junction, which causes hemorrhoids. The cause of hemorrhoids is presumed to be prolonged pelvic congestion resulting, for example, from repeated pregnancies or chronic constipation and straining during bowel movements.

Another site, and a much more acutely important one, is the esophagus. Esophageal varices are found in persons who have cirrhosis of the liver and its attendant portal hypertension. Rupture of esophageal varicosed tissue may be more serious than the primary liver disease itself.

A third site is the spermatic cord. A varicocele (swelling) is the usual outcome. This is a varicosed condition of the veins of the pampiniform plexus (vascular bed in the testicle and epididymis), forming a swelling that feels like a "bag of worms" appearing bluish through the skin of the scrotum and accompanied by a constant pulling or dull pain in the scrotum.

Signs and Symptoms of Varicose Veins

Many times, the condition will be asymptomatic. There is no correlation between size and number of varicosities and intensity of symptoms.

Signs and symptoms characteristic of varicose veins include calf heaviness, dull aching, or pressure experienced on prolonged standing (and relieved by elevation of the limb). The legs feel heavy. With disease progression, dependent edema is noted, and skin pigmentation caused by venous stasis may appear. This edema impairs circulation, rendering the tissues extremely vulnerable to injury.

The clinical significance of varicose veins ranges from innocuous cosmetic embarrassment to venous dysfunction that predisposes to stasis ulceration and thrombus formation. The patient is often concerned most about cosmetic appearance of the legs. extensive varicosities may cause skin ulcerations near the ankle. Superficial venous thrombosis may be a recurring problem. Rarely, a varicosity will rupture and bleed. While blood clots frequently form within varicose veins, their embolization to the lungs from the superficial leg veins occurs rarely.

Varicose veins are generally visible when the affected individual stands. Although varicose veins can induce significant discomfort and morbidity, the condition is rarely life threatening.

Treatment

The most conservative treatment is no treatment. If the deep vein system is healthy, nothing needs to be done.

Sclerosing (sclero = hard) agents may be used for treating small varicosities. The varicosed portion of the vein is isolated and blood aspirated from it. A solution of sclerosing agent is injected directly into the vein. Sclerosing agents indicated for treating varicose veins include morrhuate sodium and sodium tetradecyl sulfate (Table 1). Morrhuate sodium is a mixture of the sodium salts of the saturated and unsaturated fatty acids of cod liver oil. Sodium tetradecyl is an anionic surface active agent. Another sclerosing agent, ethanolamine oleate (Ethamolin), is indicated solely for treating esophageal varices.

Sclerosing agents irritate the vein's inner walls to cause inflammation of the vein's innermost endothelial cell lining and formation of a thrombus. The thrombus occludes the vein and closes it off, and fibrous tissue forms. A pressure bandage should be applied to the leg after injection to compress the vein's walls together and prevent blood flow through them. This is continued for at least six weeks. The shrunken vein remains in the leg, and blood flow is routed to collateral veins.

Sclerosing agents work best on smaller veins, spiderbursts, and when there are relatively few varicosities, but can be used on almost all varicose veins. Disadvantages include a brown discoloration of skin that may not fade. Some physicians consider sclerotherapy to be of little value because the results are not permanent. Also, the success of corrective surgery will be decreased if sclerotherapy has been tried and failed.

Surgical therapy involves extensive ligation and stripping of the greater and lesser saphenous veins. Surgery is reserved ideally for patients who are extremely symptomatic, those who suffer recurrent superficial vein thrombosis, and/or persons who develop skin ulceration. Surgery may be indicated solely for cosmetic reasons. Patients recover quickly and resume normal activities.

Nonpharmacologic treatment includes the use of elastic compression stockings to enhance the skeletal muscle pump and counterbalance the hydrostatic pressure within the veins. Clinical trials have been conducted to compare patients with varicosed veins who wear graduated elastic compression hosiery versus others who did not. The results demonstrated that venous elasticity is greater in persons who wear the stockings for 4 to 6 weeks than in those who did not.

Elastic support hosiery is sometimes the only treatment advisable for patients who are too ill or too elderly to tolerate other forms of therapy. They are particularly valuable for persons whose activities involve long periods of standing or heavy lifting and for pregnant women.

Medium to heavy-weight elastic hosiery support veins in the feet and legs. Those that fit up to, but not over the knee, full-length and panty hose styles, and in moderate, firm and high compressions. There are slight variations in the compression depending on the manufacturer, but the prevalent ranges are based on compressin at the ankles. Moderate compression refers to 10-25 mm Hg, heavy relates to 25-50 mg Hg, and firm spans the top and lower compressions of each respectively. Representative uses for each of these categories of compression are presented in Table 2.

Table 3
Patient Advice for Persons with Varicose Veins

- Elevate feet whenever possible.
- Avoid prolonged periods of sitting or standing, which causes blood to accumulate in the lower legs and causes ankles and veins to swell.
- When sitting, do not cross your legs or ankles.
- On long trips, walk up and down the aisles of the plane or train periodically, or stop the car to stretch your legs. If elastic stockings have been prescribed, be sure to wear them while traveling.
- Walk, run or swim regularly to strengthen leg muscles.
- Avoid constricting clothing. Tight garters, girdles, panty hose, and high boots can impede the circulation in the legs.
- Avoid heavy lifting.
- If necessary, lose weight.

When fitting elastic support hosiery, most manufacturers suggest taking two measurements: calf circumference and leg length. Calf circumference should be determined at its largest measurement. Leg length is usually measured from the heel at the floor to the bend in the knee. Panty hose sizes are based on the patient's weight and height using the chart supplied by the manufacturer.

High compression hosiery requires more circumferential measurements—ankle, calf, mid-thigh and upper-thigh, depending on the style of hosiery the patient desires.

Other patient information is included in Table 3.

CONTINUING EDUCATION QUIZ

Patient Counseling on Varicose Veins

1. The deep veins of the venous system are located, to the greatest extent, in the:
   a. bones.
   b. connective tissue.
   c. muscle mass.
   d. skin.

2. Which of the following is LEAST likely to occur when a person is standing perfectly still?
   a. Blood volume diminishes.
   b. Fluid will leak into the tissue spaces.
   c. Blood collects in the lower extremities.
   d. Venous pressure drops in the lower part of the leg.

3. Varicose veins classed as primary are MOST likely to result from:
   a. deep venous insufficiency.
   b. incompetent perforating veins.
   c. deep venous occlusion.
   d. incompetent superficial veins.

4. Hydrostatic pressure, to the greatest degree, results from:
   a. the density of the atmosphere.
   b. centrifugal force.
   c. the resistance against the flow of blood.
   d. the weight of water.

5. When veins have been stretched by excessive venous pressure for a prolonged period of time, which of the following is most likely to occur?
   a. The diameter of both the veins and their valves increases.
   b. The diameter of the veins increases but not that of their valves.
   c. The diameter of the valves increases but not that of the veins.
   d. The diameter of neither the veins nor their valves increases.

6. Drugs used to treat varicose veins are referred to as:
   a. thrombolytic agents.
   b. anticoagulants.
   c. sclerosing agents.
   d. varicocele agents.

7. When a person stands upright, the pressure in the right atrium is approximately:
   a. 0 mm Hg.
   b. 60 mm Hg.
   c. 90 mm Hg.
   d. 120 mm Hg.

8. All of the following are attributes of varicose veins EXCEPT:
   a. abnormal constriction.
   b. elongated areas.
   c. prominence.
   d. tortuous.

9. To provide medically beneficial support, properly fitted elastic hosiery must produce the greatest compression at the:
   a. toes.
   b. ankles.
   c. calves.
   d. knees.

10. Hydrostatic pressure along the length of the leg:
   a. decreases proportionally with the distance from the foot to the heart.
   b. increases proportionally with the distance from the foot to the heart.

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The number of CPE program approval requests submitted to the NCPhA over the past several years has necessitated that a $10 administration fee accompany each CPE program approval request form. This fee will go into effect beginning January 25, 1997, and does not include the cost of issuing CPE participant certificates.

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